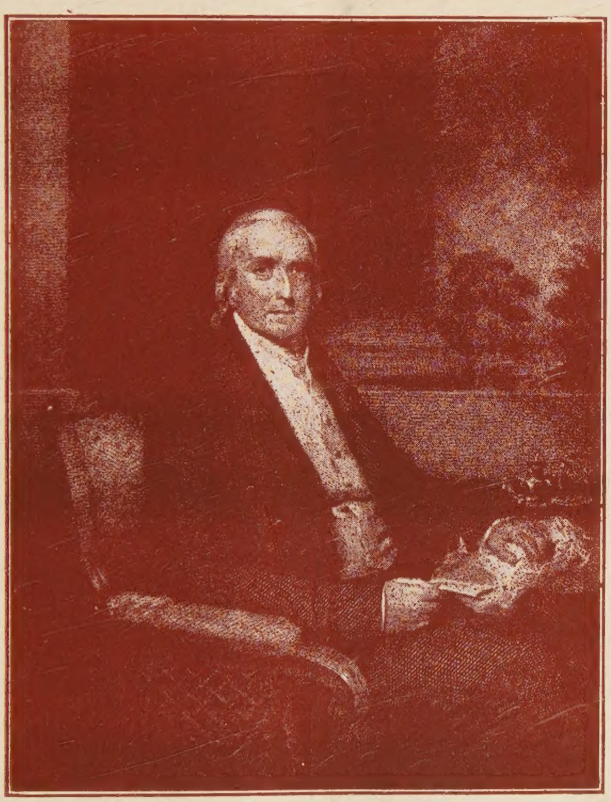
MEDICAL RECORD

83



PHILIP SYNG PHYSICK (1768-1837)

BOSTON
MAY 26 1944
MEDICAL LIBRARY

May 1944

Vol. 157, No. 5

PRURITUS due to

INSECT BITES
IVY POISONING
SUNBURN

Localized Vesicular Areas

As a protective, desiccant, mildly astringent dressing apply CALAMATUM (Nason's) three or four times a day. Once a day apply compresses soaked in warm Boric Solution for at least ten minutes.

CALAMATUM (Nason's) affords immediate relief for the itching and general discomfort of many skin affections which are prevalent during the summer months. It is a *cream* made by embodying Calamine in a non-greasy ointment base with Zinc Oxide and Campho-Phenol. Therapeutically it has many advantages over calamine lotions:

1. CALAMATUM does not run off the skin but dries quickly and adheres to the lesion, exercising its full efficacy.

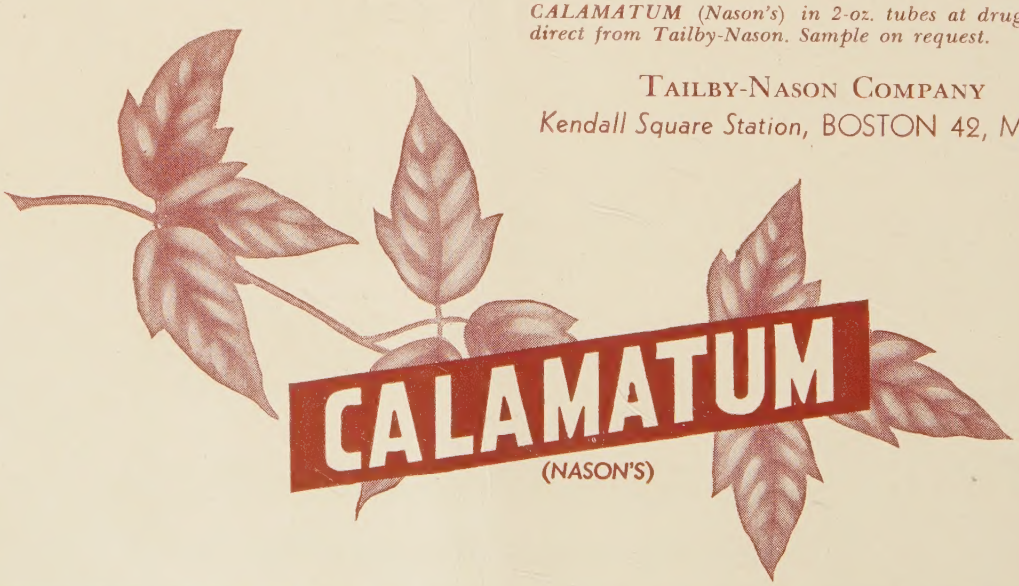
2. CALAMATUM also acts protectively, helping to localize the affection by preventing the spread of any exudate.

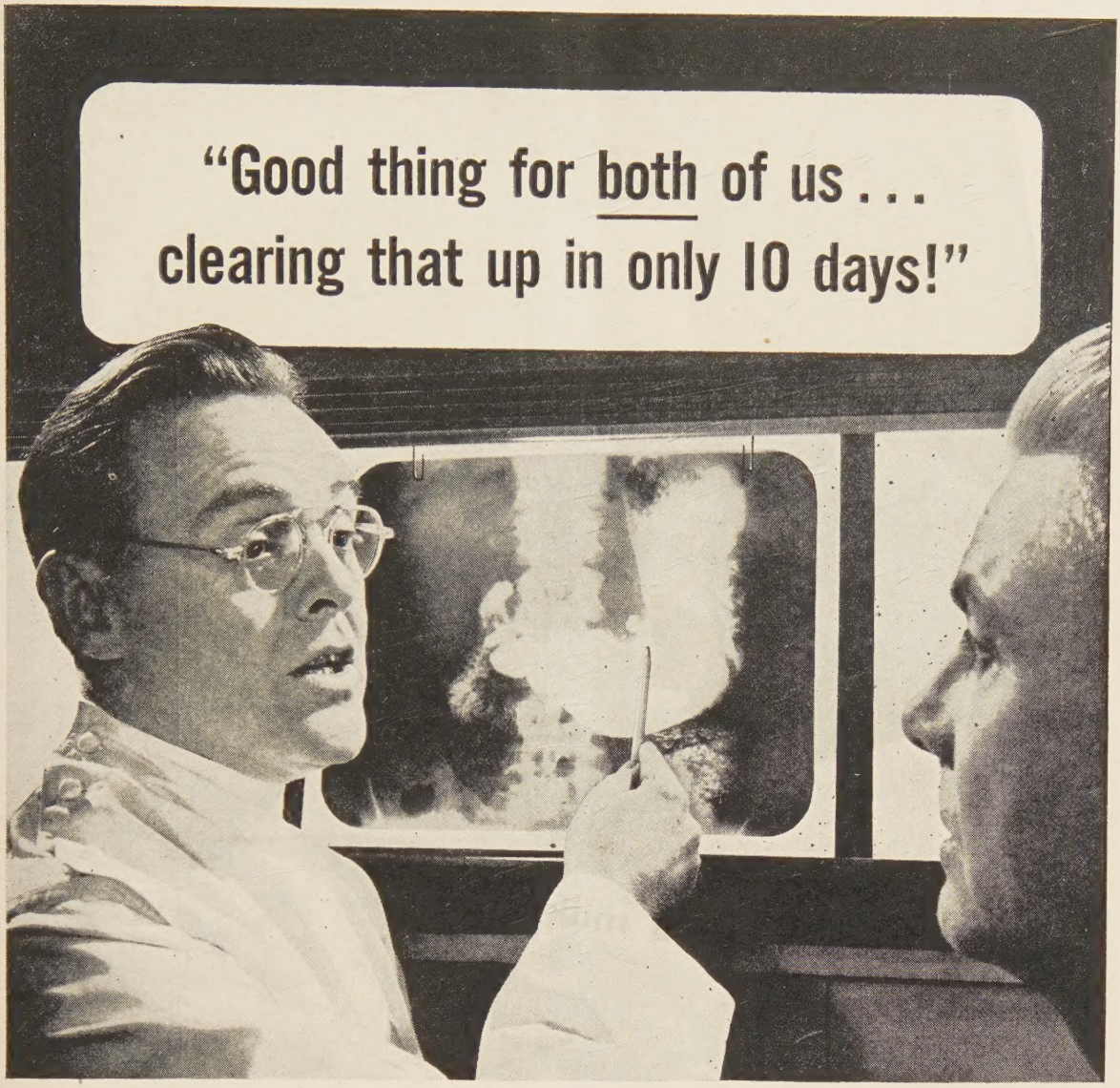
3. Its Camphor and Phenol content, by alleviating itching, with the consequent desire for relief by scratching, tends to minimize the dangers of secondary infection.

CALAMATUM (Nason's) has advantages of convenience which appeal directly to the patient. It is easily and quickly applied. Because it dries immediately and will not rub off or soil clothing no bandaging is required. The handy 2-ounce tube will not break or spill; it can be carried in pocket or bag with perfect safety and so may be taken on outdoor trips when a bulky and fragile bottle of lotion would be left behind. In short, CALAMATUM has none of the inconveniences which tend to discourage the use of calamine lotion, the patient is willing to carry CALAMATUM at all times and make applications as often as the physician has directed.

CALAMATUM (Nason's) in 2-oz. tubes at druggists or direct from Tailby-Nason. Sample on request.

TAILBY-NASON COMPANY
Kendall Square Station, BOSTON 42, MASS.





RAPID HEALING is particularly good news these crowded days to doctor as well as patient.

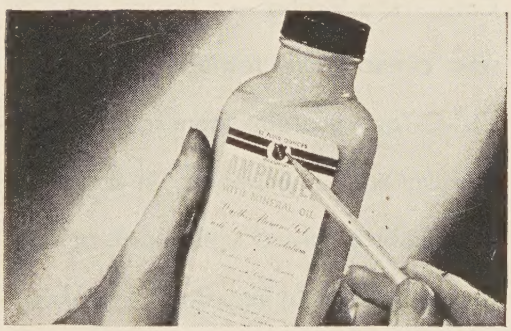
After ten days of Amphojel treatment (with, of course, an appropriate regime of diet and rest), x-ray re-examination often reveals complete disappearance of the peptic ulcer niche.*

In addition to promoting rapid healing of the ulcer, Amphojel offers:

Prompt relief from pain . . . Fewer recurrences . . . Superior weight gain during treatment . . . No alkalosis.

Available in 12 fl. oz. bottles. John Wyeth & Brother, Division WYETH Incorporated, Philadelphia.

*WOLDMAN, E. E., and POLAN, C. G.: The Value of Colloidal Aluminum Hydroxide in the Treatment of Peptic Ulcer; A Review of 407 Consecutive Cases, Am. J. M. Sc. *198:* 155-164 (Aug.) 1939.



AMPHOJEL

REG. U. S. PAT. OFF.

Wyeth

ALUMINA GEL

A pleasant way to take vitamins (and milk)

Cal-C-Tose 'Roche'—a happy solution for the finicky, undernourished patient who cannot take tablets or capsules or who has grown tired of plain milk. Cal-C-Tose contains generous amounts of vitamins A, B_1, B_2, C, and D plus calcium and phosphorus, in an appetizing cocoa-malt base. Two heaping teaspoonfuls mixed with warm or cold milk makes a delicious "hot chocolate" or refreshing "milkshake." Supplied in 12-oz and 5-lb containers . . . .

HOFFMANN-LA ROCHE, INC. • ROCHE PARK • NUTLEY 10 • NEW JERSEY

ROCHE PRODUCTS ARE NEVER ADVERTISED TO THE LAITY.

CAL-C-TOSE 'ROCHE'

MEDICAL RECORD

FORMERLY KNOWN AS THE MEDICAL JOURNAL AND RECORD

PUBLISHED MONTHLY BY

THE MEDICAL JOURNAL AND RECORD PUBLISHING CO., INC.

MAY 1944

OPEN FORUM 262

EDITORIALS 295

PAPERS AND ADDRESSES

A Physiological Paralysis Protection
Robert Marshall, Philadelphia, Pa. 281

Ills of the Medical Profession
Leon Trudeau Salmon, Lambertville, N. J. 285

SYMPOSIUM ON APPARATUS AND APPLIANCES

A Portable Miniature Operating Theater
George Richmond, Brooklyn, N. Y. 287

Incomplete Tourniquet
Joseph F. Bicak, New York, N. Y. 290

Hearing Aids as a Paramount Medical Responsibility
Irving Wilson Voorhees, New York, N. Y. 291

Dolorimetry in Medical Practice
L. J. B. Gluzek, Cleveland, Ohio 292

Aviation and Tropical Diseases
M. Martyn Kafka, Forest Hills, N. Y. 294

NEWS ITEMS 297

BOOK REVIEWS 299

MEDICOLEGAL NOTES 302

OUR CONTRIBUTORS 278

TRUTH OF THE MATTER

Good Nutrition Under Rationing *(Concluded)*
T. Swann Harding, Falls Church, Va. 304

MISCELLANY 308

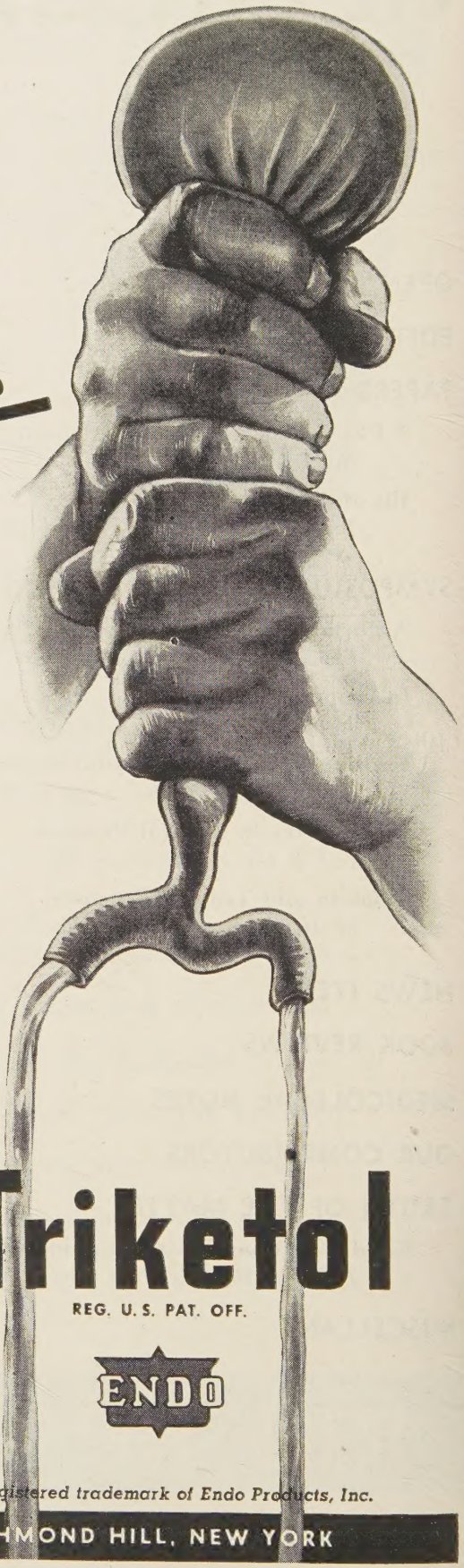
VOL. 157, NO. 5
WHOLE NO. 2736

Entered as Second Class matter at the Post Office at Rutherford, N. J., under the Act of March 3, 1879. Office of Publication, 210 Orchard Street, East Rutherford, N. J. Editorial and Executive Offices, 215 Fourth Avenue, New York 3, N. Y.

SINGLE COPIES ..... FORTY CENTS
DOMESTIC YEARLY SUBSCRIPTIONS $4.00
FOREIGN YEARLY SUBSCRIPTIONS $4.75

Copyright, 1944, by The Medical Journal and Record Publishing Company, Inc.

You Cannot Wring Out a Gall Bladder!



BUT THERE ARE conditions of the biliary tract . . . which are benefited by an active hydrocholeretic such as Triketol*, a product of Endo Laboratories developed from original methods of obtaining properly oxidized bile acids.

Triketol combines crystalline-pure dehydrocholic and dehydrodesoxycholic acids without the usual ballast material found in ordinary bile.

The hydrocholeretic action of Triketol promotes a flow of thin, limpid bile, assisting in removal of adherent sediment from the biliary tract.

Supplied in packages of 40 and 100 tablets of 3¾ grains each, at all prescription pharmacies.

Write for samples and literature.

Triketol

REG. U. S. PAT. OFF.

ENDO

Visit our exhibit in Booth 18, A.M.A. Convention, Chicago, June 12 to 16.

*The word Triketol is the registered trademark of Endo Products, Inc.

ENDO PRODUCTS, INC., RICHMOND HILL, NEW YORK

Cash Sickness Insurance

Rhode Island's compulsory sickness insurance program, the first of its kind in the country, recognizes that a person who is out of work because he is sick, or who becomes sick while unemployed, is at least as badly in need of income as the well person is between jobs. The *Survey Midmonthly* (Dec. 1943) reports on the benefits of the plan.

The program should not be mistaken as a trial or demonstration of socialized medicine. It is not a health insurance plan, in that it does not include any preventive or curative features. It is simply a cash benefit program providing insurance against loss of income due to sickness. It is not a subsidized program, since it is entirely supported by employe contributions. The plan is closely integrated with the state unemployment compensation program, and grew out of a recognition by the Unemployment Compensation Board of the unfairness of withholding benefits from an unemployed worker who has built up credits because that worker happens to be sick. No new contribution on the part of the worker is required. The one and one-half percent wage tax added to the three percent payroll tax of employers had by 1942 produced such a large reserve that it was simple, with some additional bookkeeping for the Unemployment Compensation Board, to shift two thirds of the employe contribution to a sickness fund. His net wage remained the same but he had a new type of social security.

Eligibility for benefits is limited to persons who have been away from their jobs for at least two weeks. The first week is a "waiting period" and no benefits accrue. Benefits for the second week are payable on the third week after illness has begun. Each claimant must see a doctor within five days of the onset of illness, and in most cases at least once a week thereafter until ready to go back to work. No physical examinations for eligibility to the program are required. The family physician decides whether the patient is sick enough to stay home from work.

Statistics from Rhode Island show that more than 350,000 persons are insured under this new program. They are the same persons insured under unemployment compensation. In addition about ninety-four percent of workers in this highly industrialized state have disability insurance. Amendments to the law now ensure a sick or injured person receiving cash sickness benefits as well as disability benefits, regardless of the existence of other income. Malingering has been feared and exhaustion of the sickness reserve built up, but so far these have presented no real problem.

One brake on such possibilities, however, is provided in the procedure of having the head physician of the Compensation Board estimate the expected length of disability and it is for this period that benefits are paid. The amount of credit the sick person has, in view of his tax payments, also comes into the picture. A person with unexpended credit is reexamined at the end of the period allotted as his sickness time.

To date, the plan is functioning so well in Rhode Island that other states might well study it. They will find no miraculous health insurance program, but they will find an honest attempt to protect Rhode Island families from the hardships encountered when the wage earner is sick.

Lutein Extract IN OBSTETRICS

(H. W. & D. Preparation of Corpus Luteum)

Lutein Extract is indicated in obstetrical complications, especially threatened and habitual abortion.* Injections of Lutein Extract in adequate dosage inhibit uterine contractions.

A controlled clinical study showed that patients receiving Lutein Extract were carried to delivery in a high percentage of cases as compared with those not treated with Lutein. In these cases it may be given intravenously. There were no untoward reactions when relatively large doses were given by the intravenous route.

Lutein Extract in smaller doses is also administered intramuscularly in nausea and vomiting of pregnancy and in relieving the symptoms of ovarian insufficiency.

Lutein Extract is supplied in 3 c.c. and 1 c.c. size ampules, packed in boxes of 10 or 100 ampules.

Literature and natural color illustrations will be sent to physicians on request.

*Drs. Frederick H. Falls, George H. Rezek and S. T. Benensohn, Surgery, Gynecology and Obstetrics, September, 1942, Vol. 75, pp. 289-299.

HYNSON, WESTCOTT & DUNNING, INC.

Baltimore, Maryland

Open Forum

Our Special Neuburger Number

The Wellcome Historical Medical Museum
London, N.W. 1, 22 February 1944

To the Editor.—

Please accept the expression of my gratitude for your editorial in the December 1943 number of MEDICAL RECORD. I am much obliged to you, regarding your eulogy as a great honour conferred on me. I am delighted with this *Festschrift* and its admirable arrangement; it is yours and Doctor Kagan's excellent work.

All my friends who have seen this special issue of the MEDICAL RECORD have praised it.

With kind regards and every good wish,

Yours very sincerely
Max Neuburger, M.D.

* * *

Royal College of Surgeons of England
London, W.C. 2, 21 February 1944

To the Editor.—

I am most grateful for the copies of the Neuburger Number of MEDICAL RECORD which you have most kindly sent me.

I should like to congratulate you on this splendid symposium. I feel very much honoured to have collaborated in it, and am very appreciative of the prominent place you gave to my little article.

I had the pleasure of seeing Professor Neuburger a few weeks ago, when he seemed to be in very good health. He spoke of his pleasure at the recent recognition of Austrian nationality by the United Nations, so that he was no longer officially "a slave of Hitler".

With warm greetings,

Yours sincerely,
W. R. LeFanu, *Librarian*

* * *

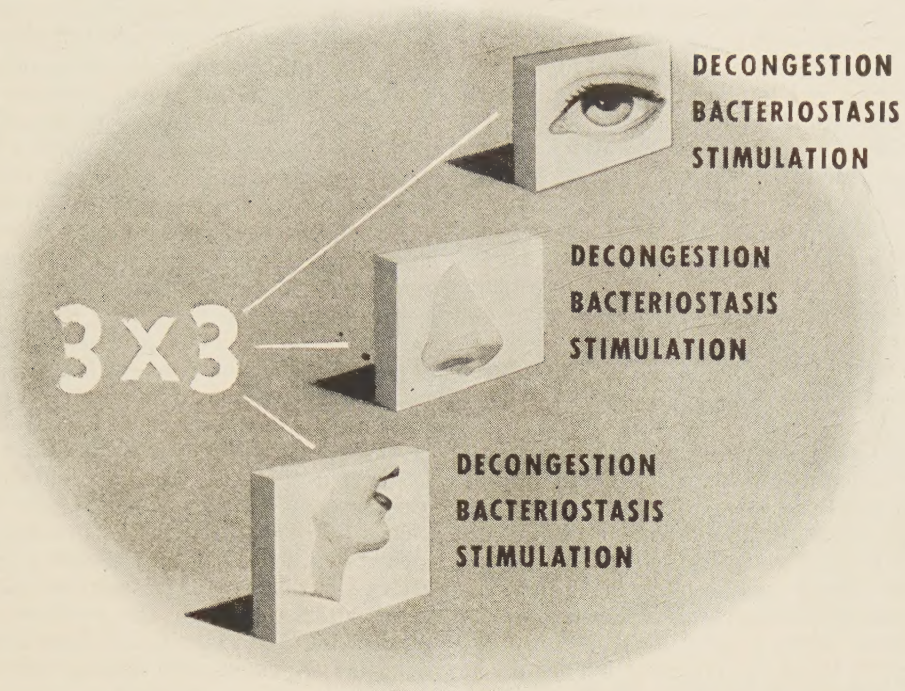
To the Editor.—

We ought to thank the MEDICAL RECORD for producing in a single issue comments and extracts from the writings of a celebrated physician in which some of the best historical data are presented and also subjects vital to the student of medical science and the general practitioner of medicine. It was a spendid symposium on a timely subject, the historic writings of a great physician and teacher, to many of us unknown until now. We regret that the chapter on cardiology was discontinued after treating about Corvisart and Laënnec. We think it might have been more interesting if brought up to the present day standard, that is, the application of electricity in studying the functions of the heart; and we do not consider that this is even the last step.

How extraordinary it is to learn that there is no end to research, and that the final problem has no final ending but that still and forever new phases of any natural subject will come to light. We never seem to get to the bottom of anything so that the observations of past centuries, which were received as final, obvious and determined, have been set aside and abandoned for more accurate observations and more delicate technique, so that observations of the past thought to be obvious and determined, give way to some newer ideal and some newer method of observation. This is often only an apparent advance in science for there is nothing ultimate in nature. Next year we may have some instrument to measure accurately the blood pressure in a special system or organ. What a vast experience and how useful it would be to be able to take exact measurements of the size of the heart; or the blood pressure in the carotids or the right side of the heart, not to mention such an arrangement if it could be applied to the liver. Some day we may also be able to determine the exact size of the ventricles in health and in disease, and their exact power to propel so many ounces of blood into the arterial system at each impulse. Such an invention would be very helpful in explaining the present day mystery of anginal heart attacks.

Perhaps our views of heart cramp will also be changed in the future. At present that cramp is attributed to certain conditions known as sclerosis in the coronary arteries, but sclerosis, that is thickening of the muscular coat of a blood vessel, is after all a rare condition. If sclerosis and calcification are synonymous, then conditions of this order are rare. The pipestem artery is most unusual and when it occurs there is not necessarily increased blood pressure just where we would expect it, and as a temporary obstruction to the blood in the coronary artery it can be set aside as not the usual cause of this condition. If heart cramp resembles muscular cramp in any other place in the body, particularly in the lower extremities, then we must ask, what takes place in the muscles of the limbs? The answer seems to be, the lack of proper or normal circulation of the blood through the muscle, which is generally if not always produced by cold. There is probably a temporary cessation of blood circulating through the muscles, produced by the action of cold on the fibres of the blood vessel. In the heart cold cannot be the cause, but there is also probably a temporary shutting off of the blood supply to the heart muscle either through some obstruction in the vessel or, what is more likely, a temporary cessation of the proper output of blood into the coronary arteries—a "miss-fire" of the heart through ventricular incapacity. In one case, normal function is brought back by rubbing and warming up the exposed part, while in the heart the lapse is established by means of some diffusible cardiac stimulant. This temporary incapacity of the heart may be due to muscular weakness, fatty heart, and possibly myocarditis, or to expansion of the heart created by many years of valvular derangement, either an obstruction or a leak in the valve. In such a case the aortic valve is the one which is principally involved and by its proximity to the coronary artery the insufficiency would be at once apparent if a steady output of blood failed to enter the artery. But, as Cabot and other authorities assert, the heart is often normal and the blood pressure is also normal in many cases of anginal attacks. We must therefore look for some other cause.

It is surprising how few anginal attacks occur when the heart valves are badly damaged and in cardiac hypertrophy. Probably this very hypertrophy saves the patient from such attacks, but even when dilatation and general failure of the circulation occur, anginal attacks from these causes are rare. There is therefore some more intimate condition closely related to the heart mechanism that is responsible for anginal attacks in the heart. A missed beat, where the blood or part of the ventricular output is limited, may be a cause of this condition, but then what would be the cause of this



NOT ONLY CONTRA-INFECTIVE—There are important properties in addition to bacteriostasis which make ARGYROL the "Physiologic Antiseptic"—one which works in harmony with the normal defense functions of tissues, nerves, cilia and circulatory system. Of first importance is the fact that ARGYROL is both antiseptic and decongestive.

NOT ONLY CONTRA-CONGESTIVE—There is an EXTRA FACTOR in mucous membrane antisepsis, in decongestion with ARGYROL. This important factor is physiologic stimulation of tissue defense function. It is a combination of physico-chemical and bacteriostatic properties which go far beyond the usual concept of what an antiseptic should do. For:

ARGYROL IS DETERGENT • PROTECTIVE • PUS-DISLODGING • INFLAMMATION-DISPELLING • SOOTHING • STIMULATING TO GLANDS, TISSUES.

MADE ONLY BY THE A. C. BARNES COMPANY NEW BRUNSWICK, N. J.

ARGYROL FOR PHYSIOLOGIC STIMULATION OF TISSUE DEFENSE FUNCTION

("ARGYROL" is a registered trade mark, the property of A. C. Barnes Company)

reduction to the full capacity of the ventricular output? The capacity of both ventricles is about four to six ounces of blood at each systole. If we could measure this output in any way it might solve the mystery of angina pectoris. We may repeat that most attacks of anginal disease in the heart are attributed to coronary sclerosis, but as sclerois and calcification are rare disorders, and as the attacks of pain generally follow exertion when more and not less blood ought to be forced into the arteries, it stands to reason that this is not the real or the main cause of anginal attacks in the heart. Insufficiency of the aortic valves is assigned as a cause and the *raison d'être* in such a case is more explainable. In any case, whether it is due to incomplete ventricular contraction or inefficacy from aortic insufficiency, in either case it is the want of blood supplied normally to the artery that counts. If it were due to the state of the arterial walls it would be likely to occur much oftener, but in cases of sudden death, thrombosis of the coronary artery is probably the most common cause.

The mechanism of the heart seems to depend mostly on its peculiar construction. The heart in reality is nothing more or less than a muscular dilatation of the aorta, and were it not for the irregular shape and peculiar interior it could not work with the regularity and the length of time it operates. The blood pressure or force of its muscular walls exerts a pressure of 120 M at twenty years, while at fifty it is only 130 M. That is, the pressure increases only about ten degrees in thirty years, and this is extraordinary when we know it never ceases to beat during a long lifetime. The muscular fibres of the heart are so constructed that they dilate to an exact and certain extent. This must be followed by contraction or rupture of the apparatus, and this is greatly aided by the columnæ carneæ and the irregular shape of the heart. The muscular fibres are small and united at frequent intervals by short branches. The whole mechanism suggests an organ which only the highest type of intellect could produce.

Besides this, the functions of the organ are admirably operated and controlled by a nervous mechanism from the brain. The capacity of the heart is estimated at from four to six ounces of blood for ventricular contractions. How much of this blood enters the coronary arteries is not yet ascertained. Probably very little but sufficient to keep the heart muscle well nourished and active. In obstructions of the mitral valve we do not often find an associated angina pectoris and in general dropsy the attacks are rare. All this points immediately and strongly to some disorder at or near the source of the coronary artery. We may assume that this defect is due to a heart-skip, an aortic insufficiency, or some disease of the coronary artery itself. It would also be interesting to know why the pain shoots down the left and not in the right arm and if this makes any difference in lefthanded people, and how the cardiac plexus is connected with the brachial. It is said that a tight ligature about the arm will arrest an impending attack of epilepsy. The same may be true of anginal heart attacks through the medium of the brachial plexus. In any case it has been discovered that a defusible stimulant such as amyl nitrite wlil ward off an attack. This action takes place almost entirely through the action of the drug upon the muscular coats of the arteries.

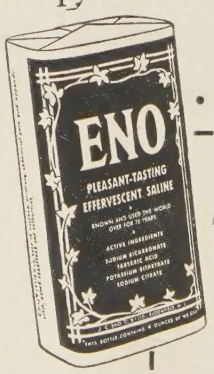
AVOID DANGER IN SULFA THERAPY!

In Sulfa therapy it has been definitely established that Sulphur in any form is contra-indicated. *Most* saline laxatives contain one or more mineral sulphates.

Eno Effervescent Saline is entirely free from Sulphates or Sulphur in any form. Hematuria occurring during Sulfa therapy usually arises from the trauma caused by crystals of the acetyl derivative, which is relatively insoluble in an acid medium. This occurs most frequently in febrile states when the urine is concentrated and acidic, hence the necessity of reducing the acidity of the urine as much as possible. . . . Eno Effervescent Saline *will help do this and relieve* "sulfa nausea."

Eno contains no sugar—is not harsh or bitter—*really tastes good!*

★ Write today for explanatory brochure to ★
Director of Medical Research,
J. C. Eno, Inc., Dept. B-1, Bloomfield, N. J.



. . . effervescent saline

A SAFE ALKALINE LAXATIVE in Sulfa Medication

They used to scoff at the "GAS BUGGY"

Remember the days when people laughed at the "gas buggy"... how they would sing out "get a horse" when the horseless carriage rode by? A rarity once, it's an accepted necessity today.

There were days, too, when people avoided MARGARINE. But that was yesterday. MARGARINE'S present uniform vitamin A fortification, its nutritious American fats which provide the important unsaturated fatty acids, plus its increased palatability, sweetness, freshness and... ease of digestibility... have made it an outstanding nutritious spread and cooking fat.

Prejudice against MARGARINE is as ridiculous as would be a prejudice against the modern automobile, for this energy-producing food is part of the seven basic food groups needed for good nutrition.

NATIONAL ASSOCIATION OF MARGARINE MANUFACTURERS

MUNSEY BUILDING WASHINGTON, D. C.

1 pound of MARGARINE provides wholesome, easily digested vegetable oils and meat fats of American origin together with a minimum of 9,000 I. U. of vitamin A. Each batch undergoes an average of ten tests for purity and stability.

Dept. 7

PROFESSIONAL SERVICE DIVISION,
NATIONAL ASSOCIATION OF MARGARINE MANUFACTURERS,
MUNSEY BUILDING, WASHINGTON 4, D. C.
Kindly forward a complimentary copy of "Fats in the Wartime Diet."

Name_____

Street_____

City_____ State_____

After the discovery of percussion, this measure was soon applied to the heart in order to discover its dimensions in health and disease. There was some difficulty, however, in determining the size of the heart by percussion since the left ventricle was placed in the posterior aspect of the organ. After Laenneç the sounds of the heart were interpreted by means of the stethoscope, but strange to say this was not accomplished by the discoverer of this useful instrument. Osler says that cardiac pain without arterial sclerosis and valvular disease is not of much moment. We can estimate the amount of cardiac disturbance in the valves by means of the stethoscope, but we have at present no means of estimating the conditions or amount of disease in the blood vessels.

Once again we should thank the able efforts of the Editor and his staff and the physicians who contributed to this useful treatise on the writings of a great and distinguished physician. There is a sense of venture, of loss of time, of being misunderstood in devoting an entire issue to one subject no matter how great that subject may be. But the result has been a glowing tribute to all concerned in this excellent work, and we have no doubt that such a worthy undertaking will redound to the excellence of such a journal that can dedicate an entire issue to a single subject, no matter how worthy of report. We are inclined to think that such work will be carried out again in a similar undertaking, that is, the life work of some distinguished physician either living, as ths man is, or reproduced from history as data worthy of some great man's name.

A SUBSCRIBER.

Medical Research in Wartime

The necessity of medical research in wartime is emphasized by Sir Edward Mellanby (*Brit. Med. Jour.*, Sept. 18, 1943) who points out the historic fact that more lives are lost by disease than by battle injuries. The health record of the British Navy, Army, and Air Force so far has been so good that it must be considered one of the outstanding achievements of this war.

The medical services of the Army, Navy, and Air Force deserve high credit, as do the Ministries of Health and Food and the British home medical services, but Sir Edward points out that chief credit should go to the magnificent achievement of scientific research. The work of the Medical Research Council, by which he designates not only the official body but also the organized medical research carried out by every branch under the direction of the official group, has not had the recognition it deserves. The adaptation of its work to the present crisis is particularly noteworthy.

The Emergency Public Health Laboratory Service is a fairly recent development that has proved invaluable in preventing, controlling and eliminating the cause of possible epidemics; its efficiency is one reason for the favorable health condition in England.

Other services in which the Medical Research Council is actively interested are the blood transfusion service, the pooling and dispersal of biological products, the registration and allocation of pathologists. The Council has also served in an important advisory capacity. In the field of food and nutrition, the Council's recommendations have influenced the choice of more nutritious bread, increased consumption of milk where needed, and increased consumption of potatoes

The most Frequent Clinical Entity Seen by the Physician

Malnutrition

Neurasthenia,
Functional Gastro-Intestinal Disorders,
Anorexia • Childhood • Pregnancy • Convalescence

B-Nutron

A Potent Source of Vitamin B Complex with Organic Iron. Samples and Literature on Reques

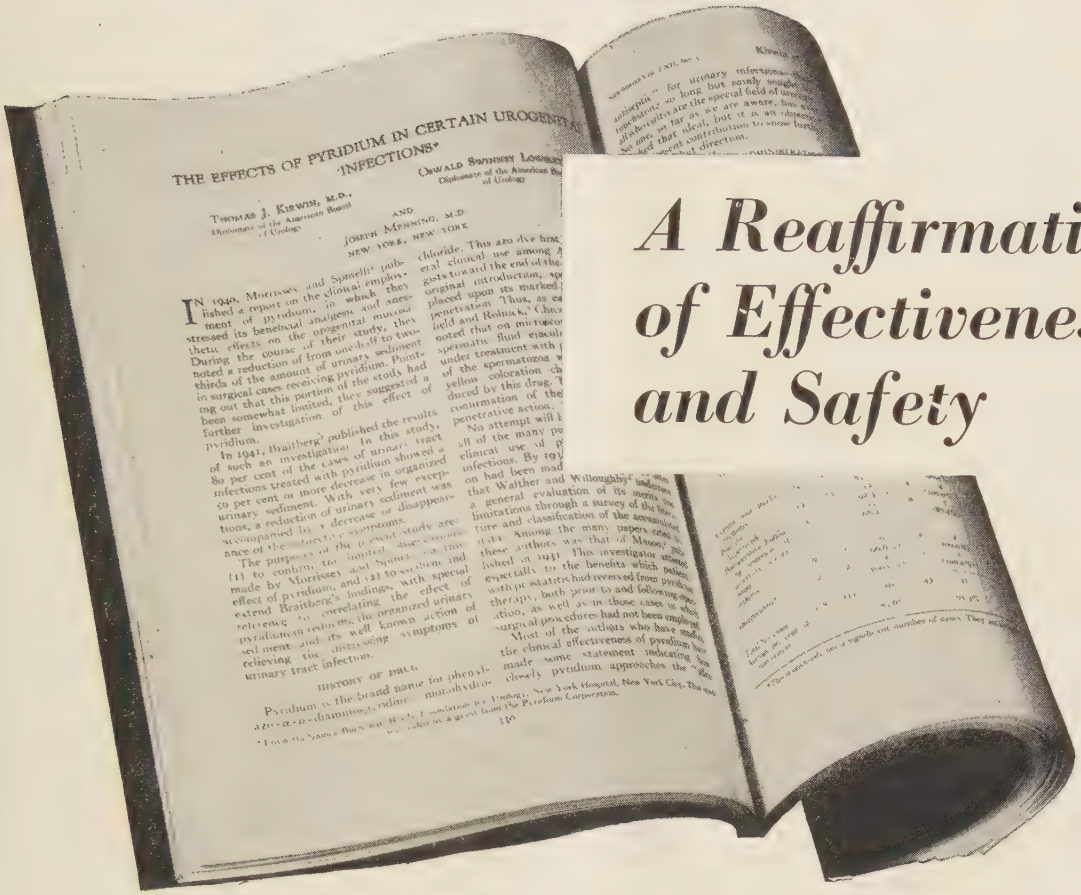
SYRUP

ONE teaspoonful t. i. d. provides:
Thiamin Chloride (B1) 1500 U.S.P. XII Units
Riboflavin (B2)..... 1500 micrograms
Pyridoxine (B6).....600 micrograms
Niacin..... 30 milligrams
Ferrous Gluconate.....3 grains
Manganese Citrate..... ¾ grain
Bottles 4, 8, 16 oz.

CAPULES

ONE Capule t. i. d. provides:
Thiamin Chloride (B1) 1500 U.S.P. XII Uni
Riboflavin (B2).....2000 microgram
Ca. Pantothenate..... 600 microgram
Niacin.....30 milligram
Ferrous Gluconate..... 3 grain
Manganese Citrate..... ¾ grain
Bottles 40—100

NION CORPORATION NION LOS ANGELES 38, CALI



A Reaffirmation of Effectiveness and Safety

THE recent careful study conducted by Kirwin, Lowsley, and Menning, of the James Buchanan Brady Foundation for Urology, New York Hospital, and published in the December 1943 issue of *The American Journal of Surgery*, reaffirms the many previously published reports emphasizing the clinical effectiveness and complete safety of Pyridium in the symptomatic treatment of common urogenital infections.

In this study of 118 cases of common urogenital infections, routine Pyridium therapy administered for a period of two weeks produced relief of the distressing symptoms in the following percentage of cases: Pain on urination was alleviated or abolished in 95.3 per cent of the cases; burning on urination was relieved in 93.6 per cent of the cases; frequency was greatly reduced or abolished in 85 per cent of the cases; and nocturia was reduced or eliminated in 83.7 per cent of the cases.

The prompt and effective symptomatic relief provided by Pyridium is extremely gratifying to the patient suffering with distressing urinary symptoms. Gratifying also is the confidence in the physician and his therapy which is so evident among patients who are treated with Pyridium.

More than a decade of service in urogenital infections

PYRIDIUM

(Phenylazo-alpha-alpha-diamino-pyridine mono-hydrochloride)

Pyridium is the United States Registered Trade-Mark of the Product Manufactured by the Pyridium Corporation

MERCK & CO., Inc. *Manufacturing Chemists* RAHWAY, N. J.

and other vegetables. In mass feeding, provision has even been made for those requiring special diets.

The systematic study of essential drugs, not easily obtainable in war time, is of particular interest. Supplies have been allocated, substitutes devised, and practically all drugs needed can now be manufactured in England. The care of shipwrecked personnel has been thoroughly studied, much research carried out, with the aid of conscientious objectors, and plans laid for the supplying of needs. Furthermore the growing problem of tuberculosis has been countered by the designing of a new mass-radiography apparatus and the preparing of a scheme for the care and treatment of tuberculous people that has been accepted by the government.

The cooperative developments of wartime illustrate how a research body and administrative government departments should work together, and how fruitful and rapid such cooperation can be.

With regard to the war services this research has even vaster implications. Research here falls into two main groups: work of clinical and pathological nature on such problems as wounds, burns, fractures, infection of damaged tissues, traumatic shock, blood transfusion, and brain and nerve injuries; secondly, the study of the best means of increasing the efficiency, safety, and comfort of fighting personnel.

The chief problems in the work on wounds and injuries are those of traumatic shock and infection. Much has been learned about shock, but the problem is not yet solved. The astounding advance in recent years of the knowledge about chemotherapeutic drugs, on the other hand, is a bright page in medical history.

The maintenance of safety, efficiency and comfort of the fighting personnel has been largely in the hands of medical scientists. Design of fighting equipment, choosing of personnel with the best natural aptitude for working it, and training to essential safety practices, all these are problems handled by specialized research committees whose work and achievements are of supreme importance.

Motion Pictures in Disability Cases

(*Continued from page* 204)

In another recent case on the subject, Maryland Casualty Co., vs. Coker (14), decided by the Fifth Circuit Court of Appeals in 1941 (4), a claimant for total and permanent injury sustained in the course of his employment under the Texas Workmen's Compensation Act, not being satisfied with the award of the Industrial Accident Board, brought suit in the state court which was referred to the federal court by the insurance company. The chief issue in the case was the extent of the plaintiff's injuries, as he claimed total and permanent disability. The insurance company denied this and asserted that his injuries did not exceed disability for twenty-six weeks. A trial was held and an award of benefits made. The defendant appealed on the sole ground of remarks of the trial court when admitting certain moving pictures in evidence.

An employe of the insurance company took the insured on a fishing trip with female companions and the usual liquid refreshments. A concealed photographer took motion pictures which purported to show insured rowing the boat. Insured denied rowing the boat, and testified that he did not know his host was

Pepsencia
REG. U. S. PAT. OFF.
WITH VITAMIN B_1

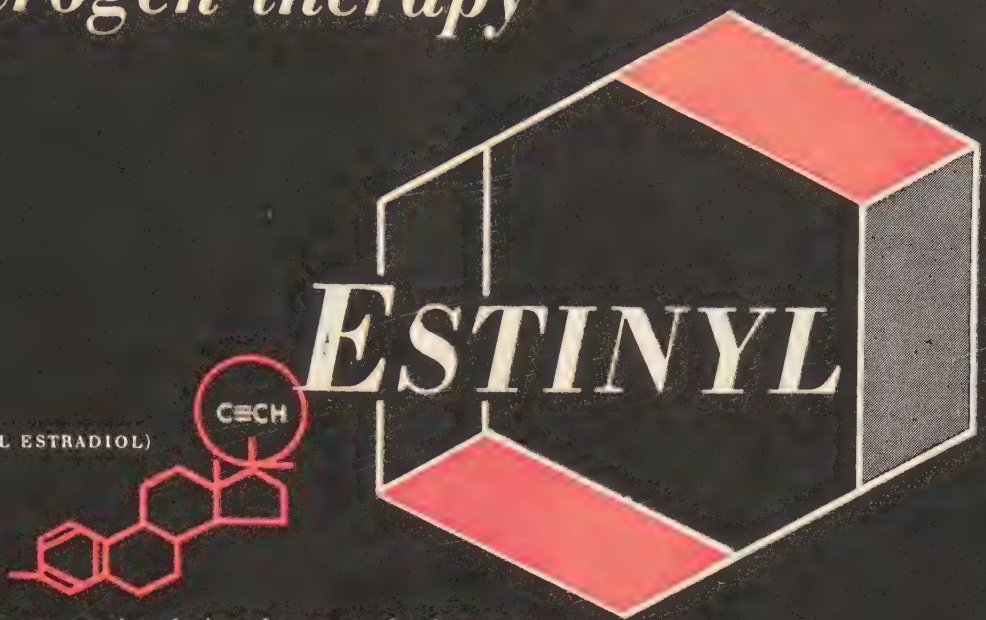
PEPSENCIA with VITAMIN B_1 contains the gastric enzymes, pepsin and rennin, coagulable nucleo-proteins, and all of the soluble constituents of the gastric juice, made directly from fresh hog stomach linings and calf rennets. Vitamin B_1 has been added in the proportions of 125 U.S.P. units to each teaspoonful.

PEPSENCIA with VITAMIN B_1 is rigidly standardized, is stable, and is pleasant to take.

The recommended daily dosage supplies 375 U.S.P. units of vitamin B_1—equivalent to 12% more than the normal daily requirement as established by the Food and Drug Administration.

Originated and made by
FAIRCHILD BROS. & FOSTER
THE FAIRCHILD BUILDINGS
NEW YORK 13, N. Y.

A significant contribution to estrogen therapy



(ETHINYL ESTRADIOL)

A tablet preparation designed to meet the demand for an oral estrogen capable of providing all the valued benefits of the true natural hormone at a cost comparable to that of synthetic preparations, and yet, extremely well-tolerated. More potent than any other oral estrogen, ESTINYL alleviates menopausal symptoms readily, and bestows a heightened feeling of general well-being.

Average dose consists of two or three ESTINYL Tablets of 0.05 mg. daily for 1 to 2 weeks, after which one tablet daily or every other day may suffice. If symptoms are easily controlled, one ESTINYL Tablet of 0.02 mg. may be found adequate for maintenance therapy. Available in bottles of 30, 60 and 250 tablets.

Literature on Request

SCHERING CORPORATION SCHERING **BLOOMFIELD · NEW JERSEY**

BUY EXTRA U. S. WAR BONDS TODAY

employed by the insurance company. When the motion pictures were admitted in evidence the judge remarked that he did not approve of the methods employed, but assumed under the general rules of law the jury was entitled to see the pictures and could take into consideration the method employed to secure them and that this method violated "the sense of fairness, propriety and good morals." But he later charged the jury to disregard these remarks completely.

Affirming the judgment of the Federal District Court, the Circuit Court of Appeals stated that there was something to be said on both sides of the question. "Moving pictures of a plaintiff in a personal injury suit which may tend to show he is malingering must usually be taken secretly. On the other hand, when the defendant induces the plaintiff to put himself in a position where such pictures may be taken, the situation is somewhat analogous to entripment in a criminal case. But, in the last analyis, moving pictures displayed to the jury are entitled to no more weight that the testimony of a reliable witness. It would have been better if the remarks of the court had been left unsaid. It is apparent the court recognized this and immediately took pains to charge the jury to disregard his remarks. It may be assumed the jury, under their oaths . . ."

On the conflicting evidence the case presented was for the jury and the appellate court considered the remark of the trial court, if an error, were harmless.

In probably the earliest case on this precise subject, Pacific Mutual Life Ins. Co. vs. Marks (5), decided in Alabama in 1935, an action to recover disability benefits under insurance policies the plaintiff sought to prove that he suffered from arthritis, particularly affecting his lower limbs, and that during the period in question he was disabled to the extent of losing all business time. Evidence for the defendant tended to show that engaging in his usual occupation would have been beneficial rather than detrimental to the plaintiff. The trial court permitted the introduction of certain photographs taken by the plaintiff person in Arizona immediately after the period of disability for which claims were made. The insurance company then made an unsuccessful effort to have them reproduced or displayed upon a screen.

The motion pictures were held inadmissible because the examination of defendant's witness failed to establish the fact the reproduction by him of the pictures on the screen could be done with such accuracy as to put the trial court in error for rejecting this offered evidence. The pictures were not authenticated and the testimony of this witness showed that whether a motion picture accurately reflected the movement of the object taken depends on the speed at which the camera is operated during the exposure; that the matter of speed of motion would depend upon the speed at which the camera was set in Arizona; that he did not know and had no way of definitely ascertaining the speed, and there was no evidence as to the speed at which the camera was set at the time the picture was taken. The plaintiff's testimony did not help. He owned the camera and the only pictures of any relevancy in which he appeared were taken by another and the plaintiff did not know the speed at which they were taken.

TO SAVE YOUR TIME, DOCTOR
MENNEN ANTISEPTIC OIL
By helping to keep the infant free of many rashes and skin infections, Mennen Antiseptic Oil may often save avoidable calls. It is the only widely used baby oil that does all these three things:
• lubricates skin
• gives antiseptic protection
• provides analgesic relief
Mildest, safest on infants' skin
MENNEN ANTISEPTIC OIL

PRIMARY DYSMENORRHEA TREATED FROM TWO ANGLES...

Nethacetin

Brand of Sympathomimetic Anodyne Tablets

1. Relieves the symptoms — pain, headache, nervous strain.

2. Relieves the etiological factor — abnormal uterine contractions.

By combining a new sympathomimetic amine with established analgesic drugs, Nethacetin provides the physician with a safe, effective means of relieving both pain and uterine spasm of primary dysmenorrhea.

Formula. Each Nethacetin Tablet contains ⅔ gr. Nethamine (brand of methylethylamino-phenylpropanol) hydrochloride, 3½ grs. acetophenetidin and 2 grs. acetylsalicylic acid.

Nethamine increases the tone of uterine muscle tissue while inhibiting individual contractions. It is superior to ephedrine in this respect, although its pressor action and central stimulating effect are much less. Therefore, reactions such as sleeplessness and nervousness usually do not follow administration of Nethacetin Tablets.

Clinically Effective. Published clinical studies show Nethacetin 85% effective in the symptomatic management of primary dysmenorrhea.

Dosage. One tablet every hour or two until relief is obtained. Usually not more than three tablets are required for each period.

Bottles of 100 and 1000

Trade Marks "Nethacetin" and "Nethamine" Reg. U. S. Pat. Off.

MERRELL

116th Year

THE WM. S. MERRELL COMPANY
CINCINNATI, U. S. A.

a complete unit for approved contraceptive technique

provides for patient comparison of Jelly and Cream (no extra cost)

The Koromex Set Complete contains in a handsome case:

Koromex Diaphragm with special pouch

Koromex Trip Release Introducer (takes all size diaphragms)

Tube Koromex Jelly (higher lubricating factor)

Tube Koromex Cream (lower lubricating factor) formerly H R Emulsion Cream

Set Dickinson-Freret Fitting Charts

Price of Koromex Set Complete is only that of the Koromex Diaphragm and Koromex Trip Release Introducer. Attractively packaged with removable label. To prescribe, just write "Koromex Set Complete" and state size of diaphragm. **Write for literature.**

Holland-Rantos *Company, Inc.*

551 Fifth Avenue, New York 17, N. Y.

HR

DRAMATIC RESULTS *in* PSORIASIS

Many types of treatment have been tried for psoriasis. Local therapy, however, which is the safest of all, has been giving the most dramatic results with a well-chosen agent.

RIASOL is a mercury compound for topical application which has been specially formulated to eliminate the inadequacies inherent in many psoriasis prescriptions. The mercurial content of RIASOL is adjusted to elicit the highest therapeutic potency with minimal toxicity.

An emulsified liquid, RIASOL is easily applied by the patient, is invisible on the skin, does not stain linen and has a pleasant odor. It may be applied freely to any part of the body including the scalp. RIASOL has also been found useful for trichophytosis.

FORMULA: 0.45% mercury chemically combined with soaps, 0.5% phenol and 0.75% cresol. One application daily is sufficient, preferably on retiring, after bathing and thoroughly drying the skin.

Advertised only to the medical profession.

Bottles of 4 and 8 fld. oz.

BEFORE USE OF RIASOL

AFTER USE OF RIASOL

RIASOL may be applied to lesions of psoriasis on any part of the body, including the face and scalp.

Mail this coupon today and try Riasol on your next psoriatic case.

SHIELD LABORATORIES, 8751 Grand River Ave.
Detroit 4, Mich.

MR-5

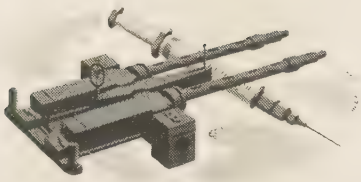
Please send me literature and generous clinical package of RIASOL free of charge.

..... M.D. ..... Street

City ..... Zone ..... State .....

Druggist ..... Address .....

RIASOL FOR PSORIASIS



TWIN ACTION

Two recognized antigens, one increasing production of agglutinins, one stimulating antitoxin, combined in ***STAPHYLOCOCCUS VATOX*** *for more effective treatment of staphylococcal infections.*

ALTHOUGH staphylococcus vaccine and staphylococcus toxoid are well established in human therapy, results from either, used alone, have not been completely satisfactory. The vaccine produces only antibacterial and the toxoid only antitoxic immunity. Years of investigation indicated the desirability of combining both actions for more effective results.

STAPHYLOCOCCUS VATOX "NATIONAL" was perfected in 1939 to answer this need. It consists of a polyvalent staphylococcus toxin, detoxified with formaldehyde to form a toxoid. The combination of the two antigens stimulates both the production of agglutinins (and other antibodies) and antitoxin. Clinical experiments*, in fact, show the agglutinin and antitoxin titres reach a higher level than attained by the use of either toxoid or vaccine alone.

STAPHYLOCOCCUS VATOX is prepared in 6 cc. vials only. You are invited to write for further details and suggested doses. The National Drug Company, Dept. J, Philadelphia 44, Penna.

NATIONAL DRUG COMPANY

*Etris, S., J. Immun. 46:309 (May) 1943; Faust, F. B., and Etris, S., J. Immun. 46:315 (May) 1943; Goodman, M. H., Arch. Derm. & Syph. 47:640 (May) 1943; Jordan, C. B., Urol. & Cut. Rev. 47:185 (March) 1943.

STAPHYLOCOCCUS VATOX

BIOLOGICALS, BIOCHEMICALS, PHARMACEUTICALS FOR THE MEDICAL PROFESSION

Geriatrics and the "Grim Reaper"

As the average age of the American populace advances year by year, geriatrics assumes an ever-increasing importance in the medical world. And since 23% of all deaths of persons over 50 is said to be directly attributable to hypertension,[1] this syndrome—which outranks cancer, tuberculosis and pneumonia as a cause of death and disability—is of constantly increasing concern to the thoughtful physician.

Because the symptoms of hypertension are insidious in their onset, they are frequently disregarded by the patient and the family physician until a catastrophe occurs.

The cause of human essential hypertension is still unknown and a specific medical treatment is not yet available. For symptomatic treatment, however, ALLIMIN is steadily gaining a wider acceptance by physicians.

Therapeutically, ALLIMIN has been found to be an effective and *safe* peripheral vasodilator for the control of elevated blood pressure. In practice, ALLIMIN has been found impressively useful for the alleviation of such symptoms as headache and dizziness so frequently associated with hypertension. The intestinal antiputrefactive action of ALLIMIN, so desirable in hypertensive patients, provides still another important advantage.

ALLIMIN is safe and non-toxic. Administration may be maintained without fear of undesirable side-effects, or after-effects. ALLIMIN is advertised only to the medical profession. For physician's sample and covering literature, sign and mail the coupon.

1. FAHR, G.: *Hypertension heart*—Am. J. Med. Sci., 175:453, April 1928.

VAN PATTEN PHARMACEUTICAL CO.
500 North Dearborn Street Chicago 10 MR5

Gentlemen: Please send professional sample of ALLIMIN and covering literature.

Dr. _____

Address _____

Town _____ State _____

Our Contributors

IRVING WILSON VOORHEES, B.S., M.D., New York, N. Y., obtained his academic degree at Princeton in 1901, and his degree in medicine at Columbia in 1905. He is the author of a book entitled, *Teachings of Huxley,* which when published earned for him the degree of M.S. from Princeton. In 1910 and 1911 he did postgraduate work on the ear, nose and throat in Vienna and Berlin. He is the author of *Hygiene of the Voice,* a book for singers and speakers, also a *Study of Beethoven's Deafness,* and has published numerous articles on various phases of ear, nose and throat work. His hobby is literature and he is fond of outdoor life.

* * *

GEORGE RICHMOND, M.D., F.R.S., Brooklyn, N.Y., received his medical training in Great Britain, and is registered to practice medicine in the British Isles. He is a member of the British Medical Association, a Fellow of the Royal Society of Medicine, and did postgraduate work in London at various hospitals. He was associated with the British Medical Mobile Unit, A.R.P., during the war for several months. When he came to America he served internships at Saratoga Springs, and Fordham; at present he is associated with Fordham Hospital. He taught first aid under the auspices of the Brooklyn Chapter of the American Red Cross, and is the inventor of a number of devices of value in first aid treatment in warfare. His favorite pastimes are the reading of books on war surgery and medical history, and his hobbies include tennis, baseball and swimming, his latest being photography.

ROBERT MARSHALL, M.G., Ph.D., Philadelphia, Pa., received his basic medical education at the University of Berlin and Schulze Institute, graduating in 1901. His postgraduate work included clinical pathology and endocrinology. In 1909 with the cooperation of the Philadelphia Health Department, he established an experimental laboratory, and in analyzing his findings he has succeeded, he believes, in establishing a better understanding of the correlation between cause and effect. This special education has enabled him to limit his practice to protective medicine (phylaxiology).

* * *

L. J. B. GLUZEK, M.D., Cleveland, Ohio, was graduated in medicine from Budapest University in 1911, and was licensed to practice medicine in New York State in 1922, and in 1940 in Ohio. He was formerly clinical assistant in neurology in the Post-Graduate and Lenox Hill Hospitals, New York. He has been doing research in deep sensibility since 1928 and is now continuing his investigations at Cleveland City Hospital.

* * *

LEON TRUDEAU SALMON, M.D., Lambertville, New Jersey, received his medical degree from the University of Pennsylvania School of Medicine, Philadelphia. He is engaged in general practice, and his hobby is the pipe organ.

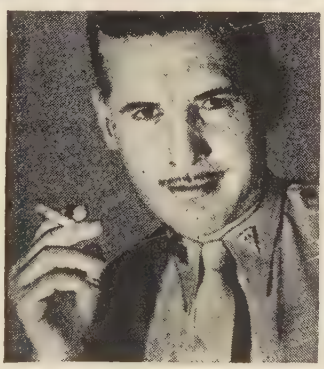
* * *

JOSEPH F. BICAK, M.D., New York, N. Y., received his medical degree from New York University Medical College and is especially interested in intravenous methods. He is a member of local and state medical societies and is a Fellow of the American Medical Association. He is fond of gardening and walking.

Marshal of Mercy

In war, even more than in peace . . . dispenser of blessed relief . . . his the precious power over pain.

Long hours the medical officer toils . . . routinely yet heroically . . . without thought of citation . . . grateful for brief moments of relaxation . . . for the cheer of an occasional smoke. And likely as not, his cigarette is Camel, the favorite brand in the armed forces* . . . first choice for smooth mildness and for pleasing flavor. It's what every fighting man deserves . . . that extra measure of Camel's smoking pleasure.



1st in the Service

*With men in the Army, Navy, Marine Corps, and Coast Guard, the favorite cigarette is Camel. (Based on actual sales records.)

Camel COSTLIER TOBACCOS

New reprint available on cigarette research—Archives of Otolaryngology, March, 1943, pp. 404-410. Camel Cigarettes, Medical Relations Division, One Pershing Square, New York 17, N. Y.

Prisoner of War Mentality

P. H. Newman (*Brit. Med. Jour.*, Jan. 1, 1944) discusses in some detail an important postwar problem, the adjustment to their home environment of the many persons who have been held as prisoners of war. The reactions of released prisoners, he says, cannot be explained as a disease; rather they are the response of a normal body and mind to the process of recovery from exposure to an abnormal external environment, a change-over in adaptation. The appearance of symptoms in the repatriated prisoner will depend upon the individual temperament, the period of time spent within the camp and the gravity of conditions imposed upon him during that time. Both physical and mental damage must be repaired. The first can usually be achieved by good food, elementary medicine and pleasant conditions. Aid in mental convalescence, however, requires more than the well meaning doctors, associates or families usually understand. Common sense must underly any treatment and great care must be taken in further help that no suspicion be aroused of mental abnormality.

Dr. A. L. Vischer in 1919 wrote a book entitled *Barbed-Wire Disease,* a psychological study of the prisoners' reaction to life in German prisoner of war camps, where he was a visiting doctor. He noted four stages which Newman applies to the officer prisoner of war, since the contrast between his normal life and his prison life is greater, and because he does not work, consequently must draw on his own resources to dispose of his time. The first period, the breaking in period is the most unpleasant, because of the forcible adaptation to a lower plane of existence. It brings with it intense longing for freedom, home, security, female society and for sympathy. The suppressed longing for sympathy is often stored up until the day of repatriation, when it crops up in different ways. The next, or convalescent stage, is the period of recovering morale. The prisoner now develops a sense of revenge, which being at the time impracticable, brings with it a sense of frustration, which may be turned into a grudge even against his own government and higher Service officials. This may carry over as a heavy grudge against the future if it does not come up to the expectations painfully visualized as a reason for living. The next stage is the period of boredom, when the uncertainty of the length of imprisonment and the total isolation make every activity seem futile. Add to this the fear of many prisoners of losing their potency because of sexual deprivation, and the fear of being forgotten men. Time is endless; responsibility ceases to exist. It is a marked effort to be constructive. There are outlets, in planning work that will be of value after release, welfare work among fellow prisoners, or making plans for escape and sabotage. Most prisoners mold their activities around these three. For those who do not, readjustment on liberation often presents great difficulties. The final, repatriation period, is one of acute danger. Much for the future will depend upon the state of home conditions. Abnormal reactions are common in this period. Symptoms are restlessness, irritability, disrespect for discipline and authority, irresponsibility, even dishonesty. Some show fear of enclosed spaces, fear of large crowds, cynicism, embarrassment in society, rebellious views against any restrictive code and a tendency to quick and violent tempers. It is important that the returned prisoner of war who shows such symptoms shall not be regarded as abnormal. This syndrome, when it exists, should pass off after six months to one year. Two types, however, the repatriate with exaggerated symptoms and the repatriate with persistence of symptoms give cause for anxiety. Should home conditions be such that domestic trouble and unemployment burden him further, he may give up the struggle.

Newman considers carefully the delicate nature of the aid that can be given these war victims. Any organization for this purpose should be well advertised among returning prisoners. It should have a competent and interested staff, plan advice centers and a rehabilitation center. He suggests concrete measures. 1. Posting a pamphlet to every returned prisoner of war containing simple and brief advice for him during the period of so-called convalescence and informing him of the existence of an advice organization should he require it. 2. Staffing this advice organization, preferably by persons, possibly physicians, who have been prisoners of war themselves, who understand prisoner of war life. 3. Starting prisoner of war clubs in all large towns with experts in attendance, to make a logical gathering place for those craving the understanding of others who have been through the same experiences, and a place for the advice centers to which relatives may bring their problems. 4. A rehabilitation center with consultant psychologists and a trained rehabilitation staff to care for those recommended from advice centers and by members of the medical profession throughout the country.

Concentration Radiotherapy in Laryngeal Cancer

Dr. Max Cutler, chief medical consultant in cancer at the Veterans Administration Facility, Hines, Ill., has presented a report on the results obtained in a study of 413 cases of cancer of the larynx treated at the Veterans Hospital and the Chicago Tumor Institute by a new method of x rays and radium called concentration radiotherapy. Some patients were treated with x rays and others with radium; a combination was not used. The treatments were given twice daily. Some patients were treated for eleven consecutive days and others for eighteen. Dr. Cutler said the treatment was based on a new principle, the rays being concentrated upon a small area. The strongest doses were given to the point of origin of the growth.

The report stated that it was not possible to cure advanced cases of cancer by the treatment and the larynx had to be removed surgically. In early cases, however, the method had been highly successful. In fifty moderately early cases, the lesion disappeared in forty cases, or eighty percent. Twenty-three out of twenty-eight patients treated three years are at present free of the disease and apparently cured. Unfortunately, the disease was in its early stages in only eighty-eight of the 413 cases treated, or approximately twenty percent. Thus, a reasonable chance of cure at the outset existed in only one out of five cases.

The author concludes that the most significant result of this research is the eradication by means of a new method of radiotherapy of several cancers of the larynx, hitherto generally regarded as resistant to radiation. The National Cancer Institute of the U. S. Public Health Service provided a grant-in-aid to cover part of the cost of this study.

FELLOWS'
COMPOUND SYRUP

FORMULA: Each fluid drachm contains

Strychnine Hydrochloride	Gr. 1/61	Calcium Hypophosphite	Gr. 5/16
Manganese Hypophosphite	Gr. 1/8	Iron Pyrophosphate	Gr. 1/8
Potassium Hypophosphite	Gr. 1/8		
Sodium Hypophosphite	Gr. 1/8		

Prescribed by the members of the Medical Profession and sold in many countries for more than 60 years.

1. **Produces bitter and therefore tonic effects upon the alimentary canal.**
2. **Improves muscular tone and nutrition.**
3. **Provides limited respiratory and vasomotor stimulation.**

Samples on Request

FELLOWS MEDICAL MANUFACTURING COMPANY, INC.
26 Christopher Street, New York City

FOR IODINE RESULTS WITHOUT THE USUAL IODINE DISTURBANCES

ORGANIDIN—WAMPOLE

A STABLE PREPARATION OF IODINE

IODINE

ORGANICALLY COMBINED

FOR INTERNAL ADMINISTRATION

Freely miscible with water. Contains no free iodine, no hydriodic acid, no inorganic iodides and no alcohol.

ORGANIDIN is absorbed readily from the gastro-intestinal tract, with less irritation and less toxicity than is produced by elementary iodine. Thus it permits a maximum effect with a minimum iodine dose.

A superior product which may be administered over an extended period of time with little probability of causing gastro-intestinal disturbances or iodism.

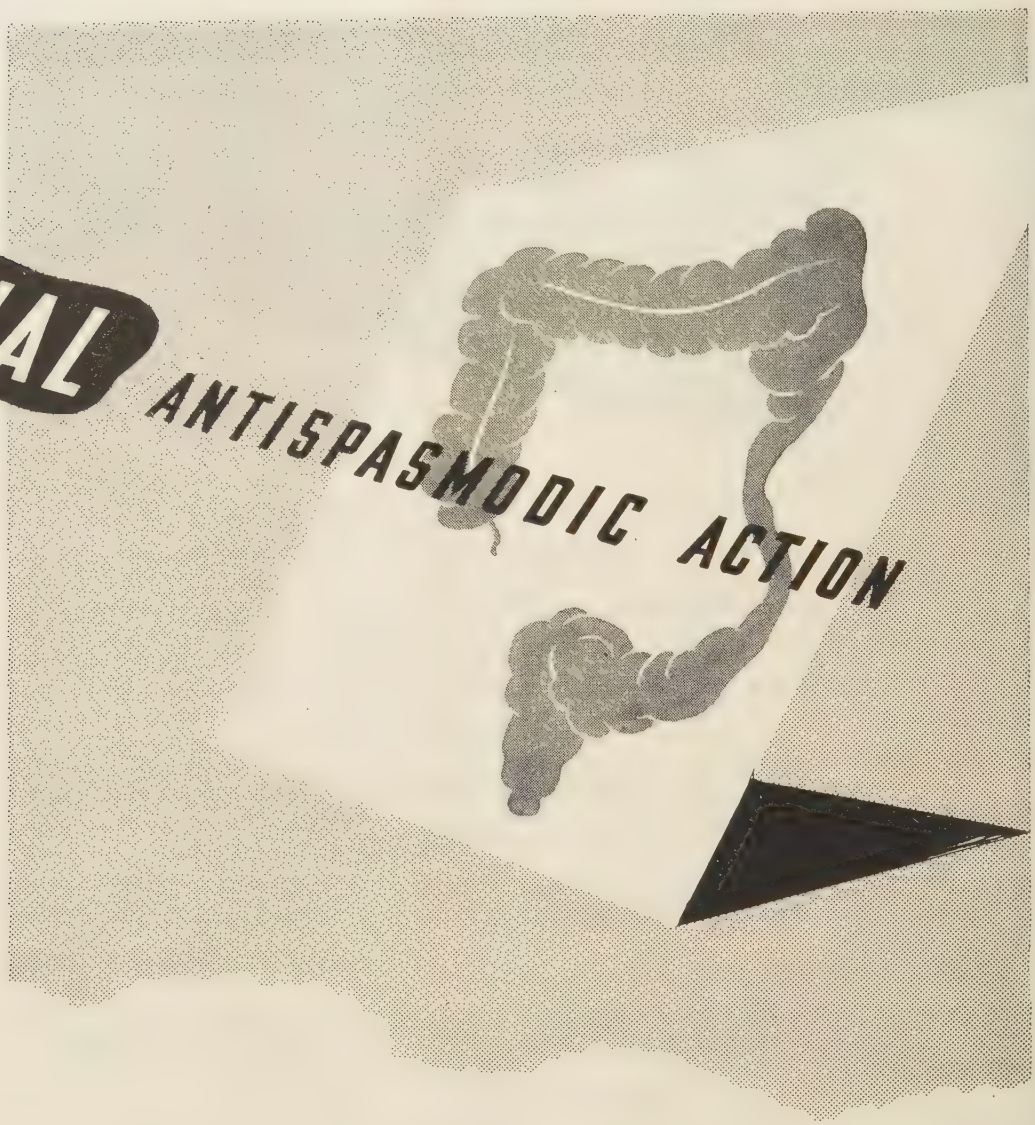
SUPPLIED IN 1-OZ. BOTTLES

MADE SOLELY BY

HENRY K. WAMPOLE & CO., INC.

MANUFACTURING PHARMACISTS

PHILADELPHIA 23, PA. U. S. A.



✓ Syntropan 'Roche'—non-narcotic antispasmodic—relaxes smooth muscle spasm by direct action on the muscle cell *and* by exerting an inhibiting influence on the parasympathetic terminations in smooth musculature.

✓ Unlike atropine or belladonna, when Syntropan is given in therapeutic doses, there is very little likelihood of mouth dryness, mydriasis or tachycardia. The dual action plus the wide margin of safety make Syntropan a most effective and desirable antispasmodic. . . . HOFFMANN-LA ROCHE, INC., NUTLEY 10, N. J.

NON-NARCOTIC ANTISPASMODIC *Syntropan* 'ROCHE'

MEDICAL RECORD

PUBLISHED MONTHLY BY
THE MEDICAL JOURNAL AND RECORD PUBLISHING CO., INC.

VOL. 157, No. 5 MAY 1944 WHOLE No. 2736

A PHYSIOLOGICAL PARALYSIS PROTECTION

ROBERT MARSHALL
Philadelphia, Pa.

In an attempt to reach this goal, let us start at the beginning. In an article on vitamin C, a possible paralysis control (1), I said: "It may seem strange to the average physician, interested in vitamin therapy, that vitamin C was selected instead of vitamin B, which is known to exert a specific protective function against beriberi and polyneuritis. Different pathology and etiology, however, make vitamin B not only unsuitable, but rather harmful in poliomyelitis". I did not know at the time that Dr. Simon Baruch, on July 19, 1916 suggested the use of vitamin B for polio, by associating its symptomatology with that of beriberi, reasoning that this nerve vitamin might produce a protection against paralysis (2). In 1938, Dr. W. J. McCormick revived Baruch's theory, blaming vitamin-deficient food as a possible causative factor. He states, however, (3): "No experimental or clinical data are submitted in support of the theory advanced, but if its basis is physiologically sound, it would appear that a fair clinical trial should be given to this natural nerve protective agency, which has proved so effectual in the treatment of other paralytic conditions of undoubted similarity."

In the symposium on poliomyelitis, presented in Philadelphia under the auspices of the Rockefeller Foundation, Dr. James H. Jones (4), of the University of Pennsylvania staff, showed charts depicting extensive experiments with thiamin hydrochloride, which, as might have been expected, showed no preventive action whatever, but, at best, a delaying action of the paralytic symptoms, of which I shall speak later. Of course, McCormick in his second and third papers on vitamin B therapy, reports some cases with more favorable results.

Since Baruch's suggestion (5) "is based on an erroneous interpretation of symptoms, instead of a thorough analysis of underlying causes", McCormick attempts to justify the the theory by saying (6): "It would be difficult, indeed, to base any treatise on poliomyelitis on an analysis of underlying causes, when none such are as yet recognized."

Dr. Don W. Gutakunst, medical director of the National Foundation for Infantile Paralysis, in the opening lecture of the symposium says (7): "The laymen believe that if the cause were known, we would have solved the problem; but we do know the cause to be a virus—that is definite. A virus is usually smaller in size than the smallest germ, but there are some viruses that are larger than some bacteria. So it is not the size, but the method of attack". I believe that "as long as we accept the virus theory and the primary physiopathology of this disease, we cannot assume that vitamin B could possibly exert any preventive action" (5). McCormick further states (6): "Your explanation seemed most inconclusive and was apparently based solely on the conventional virus theory of the etiology of the disease. For this reason, and also because your observations were mostly about vitamin C, I have not referred to your work in my papers". It is unfortunate that the line of least resistance may be instrumental in sidestepping the findings of pioneers, who, in their tedious endeavors, had no precedent to follow, and thus have contributed much which deserves scientific consideration.

As for the paralytic reaction of poliomyelitis, Heine, who was the first to indicate the anatomical location of the disease, believed that it was due to a compression of the spinal cord by an inflammatory exudate. In 1870, Charcot and Joffrey showed a definite degeneration of the anterior cells in paralytic cases. Subsequent observations convinced these investigators that the interstitial tissue was degenerated before the ganglion cells were attacked. Both these observations have been verified by other investigators.

I. Strauss (8), in discussing the pathology of poliomyelitis, says: "There are changes in both the interstitial and parenchymatous tissues, but the interstitial tissues are of fundamental importance, and the latter are secondary to them". Paragraph 10 of this article reads as follows: "The edema which is present in both the white and gray matter is an important factor in producing the paralysis and explains to a large extent the transitory character of the symptoms in the patients who survive." Upon these findings, together with some of my own experiments, I suggested the therapeutic and prophylactic use of vitamin C, in the form of strained lemon juice, in measured doses, to be administered sublingually. This suggestion was made in one of my three papers on poliomyelitis, written especially for the Philadelphia Department of Public Health, during the epidemic of 1916. Dr. Theodore Le Boutillier[1] used these measures in a number of cases at the Philadelphia General Hospital, and reported the most encouraging results when applied sublingually in five to ten drop doses and repeated as required (9). The

[1]Dr. Boutillier expressed the opinion that the psychological influence of frequently repeated doses contributed toward the favorable results obtained.

simplicity of this measure, however, did not invite the extensive study it deserved. The theory remained dormant for nineteen years, when Dr. Claus W. Jungeblut, of the Columbia University faculty, made some preliminary experiments. These were followed by more extensive tests in 1936, using crystalline vitamin C in experimental poliomyelitis in rhesus monkeys, with remarkable results. These tests demonstrated that small doses had a decided protective value, while larger doses had none whatsoever. This strange phenomenon, discovered by Jungeblut, verifies the results of my experiments in 1915 on acid-base equilibrium, when I found that small doses of potassium citrate increased the alkaline reserve, while larger doses reduced it. In 1916, I believed that lemon juice, in excessive doses, would exert an undue strain on the fundamental bases. This may explain Jungeblut's success with small doses, while the larger doses were negative, especially when we consider that ascorbic acid is extremely acid, having a pH value of 2.5 to 3.

The classical experiments of Jungeblut showed that the daily therapeutic doses of vitamin C covered a range of 700 mg. to 5 mg., and were mostly administered subcutaneously for two weeks, or until the onset of paralysis; while the doses of virus was 0.1 cc., 0.05 cc. and 0.01 cc., respectively. The seven hundred to one hundred mg. vitamin group showed one hundred percent typical paralysis, irrespective of the size of the virus dose, while the fifty mg. vitamin group showed sixty-five percent paralysis and the five mg. about sixty percent. When the virus dose was reduced to 0.05 cc., the five mg. group dropped to forty percent paralysis. "Whether the data are taken as a whole or are interpreted according to graduations in the size of the infecting dose, it appears that treatment with five mg. of vitamin C has reduced the incidence of paralysis roughly by one-half, as compared with untreated controls" (10).

It has been conceded that (11) "the essential function of vitamin C appears to be the maintenance of a normal state of intercellular ground substance in which the tissue cells are imbedded and cemented together. . . . The manner in which the antiscorbutic vitamin exerts its effect is unknown". The findings, as stated before, show that the interstitial tissue, composed primarily of what Virchow calls neuroglia cells, is attacked first, and when its protective power is destroyed, the neurons of the anterior horns become the victims. The x ray slides shown by Dr. Howard A. Howe, of the Johns Hopkins staff (12), seemed to verify these findings. He also mentioned the edema found in the spinal cord in pathological examinations.

Dr. Herman Kabat (13) spoke at length on the internuncial pathways, which serve as a medium for communication between the nerve centers in the central nervous system, and showed that, while the virus has a high degree of selectivity for neurons of the anterior horns, these internuncial neurons are destroyed before the anterior cells are attacked. If vitamin C can keep the intercellular substance in a normal condition, we are at least taking a step in the right direction for producing a physiological protection, which is especially desirable since the usual methods of producing artificial immunity have failed in poliomyelitis.

Jungeblut and Engel, as well as numerous other authorities, have found that killed virus may produce antibodies, but "does not protect the cellular structure so essential to poliomyelitis immunity". Leake (14) contends that the use of live virus is too dangerous for serious consideration in humans, since no conclusion can be drawn from animal experiments. Jungeblut goes into great detail, views immunity from various angles, and comes to the conclusion that "the pathogenesis of infantile paralysis is discussed in the light of the experimental findings and the possibility is suggested that vitamin C represents one of the deficiency factors in the susceptibilty problem of the human disease" (10). In a personal communication, dated January 19, 1937, he says: "Our own clinical experience with the ascorbic acid treatment of human cases of infantile paralysis is still too limited to make any definite statements, but the outlook seems encouraging".

Dr. Kenneth F. Maxcy of the Johns Hopkins faculty, states (15), that there is an immunity which is based on age, believing that antibodies are developed as the child grows older. Jungeblut et al, on the other hand, say that (10) "direct experimental data which indicate that poliocidal substances found in normal human or animal tissue, serum or other body fluids, are probably not of antibody character, but resemble agents of vitamin-like or hormonal nature", while Abt says (16): "It may be said that breast feeding confers a certain antitoxic protection which is conveyed from mother to child. It has not been proved up to the present time that the immunity is due to bacteriolytic processes. Very likely a specific immunity may be brought about by the required food elements which indirectly act upon the cells to produce antibodies. According to the investigations of Moll, we know that the young animal organism has much less power to produce antibodies than the adult, and therefore the resistance against infection and disease processes is relatively diminished in the infant."

Be that as it may, we should try to find the whys and wherefores. Let us start with nutrition. The normal infant food is unquestionably the milk of its healthy mother. Milk, as we know, may change from hour to hour, but, there is a standard by which we may be guided. Best and Taylor (11) state that "human milk of good quality contains all the elements essential for building body tissue, and adequate amounts of vitamins A, B_2 and C; vitamins B_1 and D are low in concentration". Now then, does this mean that nature is wrong, and that we must add to the low concentrated vitamins, or may we believe that the infinitesimal portion of B_1 and D are adequate. I, for one, assume that the latter contention is correct. Best and Taylor further state (page 1091): "Infants require much more vitamin C relatively to their body weight than do adults." On page 1088 of the same work we find: "Cows' milk and other animal foods are poor sources of vitamin C. Its concentration in human milk is several times greater than in cows' milk." Since the normal infant food furnishes an adequate amount of vitamin C, and the artificial (cows' milk) is deficient in ascorbic acid, we may be led to believe that artificially fed infants are more susceptible to polio. We have no statistics to verify this contention, however, but circumstantial evidence seems to point in that direction.

During Dr. Maxcy's epidemiology lecture, Dr. Joseph Stokes, Jr. asked whether there was any explana-

tion of the fact that people living in somewhat unsanitary surroundings, and under poor circumstances in general, are proportionally less affected than those who live in suburban districts, or in an excellent hygienic status. Of course, there was no explanation. However, it is definitely known that the infants of the poor are mostly breast-fed; this, together with a possible state of malnutrition, of which we will hear later, may account for a physiological immunity. When we perusé the statistics given by Dr. Pascal F. Lucchesi, of the Philadelphia Department of Public Health, we find (17) that the age limit has considerably increased during the last epidemic, being mostly in the five to ten year group, while formerly the majority of patients were below five years of age. I believe that it is reasonable to attribute this change to the customary practice of adding vitamin C in the form of orange or tomato juice to the dietary of infants. This is more or less abandoned as the child grows older, when the vitamin is still needed to balance physiological function.

In 1906, Hill showed that polio develops in dry hot seasons. Subsequent statistics showed that this is ninety percent correct. Such a dry, rain-poor condition not only interferes with the normal vitamin C development, but is definitely destructive to this valuable food factor, but it does not destroy thiamin so easily.

When I advocated lemon juice in 1916, I realized that it was more than vitamin C, which I later termed C complex, containing vitamin P (Szent-Györgyi) and other factors, such as potassium citrate. That the potassium ion may have some influence in normalizing the physiopathology of poliomyelitis, the following excerpt, for which I am indebted to Dr. Logan Clendening, may be worthy of note: "An interesting observation that has not been followed up in this country is that of a Swiss doctor, Contat, who in the 1937 epidemic prescribed potassium chlorate for the relief of the sore throat accompanying the disease. He was greatly surprised at the favorable turn taken by the patient, as the temperature soon became normal and signs of meningeal irritation and paralysis disappeared. He followed this up by treating the next thirty-five cases with potassium chlorate and in the whole series there was no fatality and little permanent paralysis."

In physiology, the potassium and calcium ions act antagonistically to each other, while observations indicate that vitamin C plays an intermediate stabilizing function in calcium-potassium metabolism, so important during the rapid growth of infants. To emphasize the importance of calcium in the human economy, let us consider the experiments on cell life demonstrated by Dr. Heilbrunn, at the Stanford University symposium on cells and protoplasm (18). He concludes that the rushing of calcium from the wall to the interior of the cell takes place whenever any cell is stimulated or aroused to activity; that a "jelling" and "unjelling" takes place, and that this theory applies to nerve as well as muscle action, being an expression of life itself. This "jelling" is produced by the liberation of calcium, as demonstrated, while (11) "the outward diffusion of the potassium ion ("unjelling") is apparently an essential factor in the development of the potential change associated with the conduction of nerve impulses."

In infancy and early childhood, the stabilizing activity of vitamin C may be essentially associated with normal cell permeability. In later years this food factor may play a less important rôle, for as we advance in age, the vitamin C requirement is reduced correspondingly with the gradual slowing of growth. It is during this slowing period that a limited threshold is established and subsequently maintained, while the excess intake is readily eliminated. In poliomyelitis, a physiological calcium imbalance may be demonstrated, which is not observed when a normal supply of vitamin C is present. In other words, the normal diffusion ("jelling" and "unjelling"), spoken of by Dr. Heilbrunn, needs an activator or stabilizer, which is deficient in the disturbance of polio cell metabolism. There are many factors involved in growth and metabolism; however, the developments during the stabilizing evolution mark this period as the most critical of infancy and early childhood. "The fact is", says Aulde (19), "that growth and development do not go hand in hand, there is frequently a "hitch" due to lack of symmetry, chemical as well as physiological deviation. Rapid growth means a demand for bone-making material in excess of the normal supply, and as a consequence, development of the nervous system lags, even without taking account of the off-tendency to acid excess."

There is a well founded belief that the well nourished have a greater resistance to bacterial infections. However, in virus infections, especially in poliomyelitis, the opposite seems to hold true. It has been definitely established that the polio-susceptible infant rarely, if ever, shows any retardation of growth before the attack. If we empirically administer a "growth stimulating" vitamin, such as B_1, on the basis of being indicated in a condition of somewhat similar symptomatology, we are artificially augmenting a function, which normally is to be slowed and controlled. Hence, while the faulty metabolism and constitutional anomalies are struggling for a balance, we are retrogressing to an early infant period of instability, a condition of susceptibility to the disease. Whether this susceptibility is directly due to the excess of vitamin B_1, or to an imbalance thus created, thereby promoting a suitable nidus within the cells for the optimal propagation of the virus, we are not in a position to state definitely. The probability is that both these theories are correct. Since this food factor is essentially connected with nuclear metabolism, the neurons contain a greater proportion of thiamin than the cells of other tissue. In malnutrition, the neurons being limited in their vitamin quota, and since nature is struggling for a balance, an "aging process" takes place which deprives the virus of the necessary intercellular material for growth and propagation. An excess of thiamin, on the other hand, would produce the "delaying action" spoken of previously, while no protection from paralysis could be expected from such favorable surroundings for the virus. An occasional case of malnutrition may be observed in poliomyelitis in which a deficiency of weight may be ascertained, but the actual growth of the skeleton has not been retarded. In such cases a vitamin deficiency may exist, but it is not vitamin B_1 but vitamin A. Vitamins D and A are mutually attracted to each other by their opposing characteristics, which may explain many abnormalities, some of which are occasionally found in this disease.

How the virus enters the human body is not defi-

nitely known, but most observers believe that the olfactory tract is the probable place of entry, since the nerve ends are so close to the membranes of the nose that infection would become comparatively easy. If vitamin A can keep the membranes healthy, as many assert, a first line of defence would be established against invasion of the virus. It follows that in some cases vitamin A may be added to vitamin C (5). In this connection we may emphasize that provitamin (carotene) may not be readily converted into vitamin A, under the abnormal polio-susceptible condition of infants, hence would not be suitable in these cases.

Summary

Early investigators have found that the interstitial tissue is the "interior line of defence" for the ganglion cells, and as long as these cells are protected, no paralysis may ensue. An edematous condition of the spinal cord has also been demonstrated. It has been shown that vitamin C has a normalizing effect on interstitial tissue, and that this vitamin is also essential for proper cell permeability. With this in mind I suggested vitamin C complex[2] in measured doses. Jungeblut's outstanding experiments have demonstrated that vitamin C may be a valuable factor in paralysis control. However, we must keep in mind that poliomyelitis is exclusively a human disease, hence experiments which may be safely conducted in actual paralysis cases in humans should be encouraged, provided they are of a scientific nature, based on existing conditions. Circumstantial evidence seems to indicate that breast-fed babies have a higher percentage of immunity to poliomyelitis; however, when vitamin C is added to cows' milk, we may encourage an artificial protection. The critical period of infancy and early childhood is during the stabilizing procedure, when nature tries to establish a normal balance of growth and development, when vitamins do play an important part in proportion to the standard set by normal mothers' milk.

One outstanding hypothesis has been brought forth, viz., that from the viewpoint of nutrition, virus disease, and especially poliomyelitis, shows characteristics directly opposed to those of bacterial infection. The infant who is susceptible to poliomyelitis rarely, if ever, is underweight; and when a retardation of growth is present, as happens occasionally, it is not due to a deficiency of "growth promoting" vitamin B_1. If it is due to vitamin lack, it is that of vitamin A. We believe the neurons, of necessity, absorb a greater percentage of thiamin than cells of other tissue. It is this vitamin, or its metabolic derivative in the neuron which attracts the virus, finding a suitable nidus for growth and propagation. If there is a decided deficiency of vitamin B_1 during the stabilizing period, we may find muscle waste before any other symptoms arise. If this deficiency is prolonged, a refractory state of the nervous tissue may ensue, which in many respects simulates the acquired immunity after recovery from an attack of poliomyelitis. This, however, is not poliomyelitis, but beriberi. While the intermediate symptomatology may show some poliomyelitis characteristics, we must bear in mind—and this is *very important*—that one is caused by a deficient intake of thiamin, while the other is caused by an excess to which the virus is attracted, since it furnishes essential food for the microorganism. Vitamin B_1 may also be found in infinitesimal portions in peripheral nerves. This attracts the virus, which travels via the perineural route to find a less protected opening for the attack. The protection of these nerves, in which the potassium ion plays a part, is adequate for the comparatively small amount of thiamin present. Wickmann's theory that the virus travels from the peripheral to the central nervous system may thus be verified. In malnutrition this vitamin supply is limited, and since no abundance exists, the virus is not attracted to the cells which cannot supply material for growth and propagation.

Establishing a physiological protection differs materially from the customary methods of acquiring artificial immunity, since it involves many factors of life processes essential to normal function, which if properly balanced, are instrumental in developing a natural protection. In short, we seek to normalize the exterior and interior lines of defence, while keeping the food for the existence of the virus at the extreme minimum of normal requirements, since a slight excess of thiamin has tendency to attract these microorganisms and incidentally retards the "aging process" during which immunity is established.

While protective therapy is most effective in the primary stage of the disease, it is useful until the microbic activity is halted. This is the immunity period during which no excess of thiamin is available, in fact, a deficiency of vitamin B_1 has been established by the ravenous appetite of the virus, which cannot exist any longer in such poor surroundings. This is the period where its "harmfulness may be converted into usefulness" (5), when vitamin B_1 may again be added in greater amounts, together with other food factors to help in restoring the vitamin deprived, but not the destroyed neurons.

2635 WEST COLUMBIA AVENUE

References

1. MARSHALL, ROBERT: Vitamin C, a possible paralysis control. MED. REC. (July 1) 1936.
2. MCCANN, ALFRED W.: *The Science of Eating*, p. 309. New York, 1918.
3. MCCORMICK, W. J.: Poliomyelitis: vitamin deficiency a possible factor in susceptibility. *Can. Med. Assn. Jour.* 38:260-265, 1938.
4. JONES, JAMES H.: Nutrition and poliomyelitis. Fifth lecture in the symposium on poliomyelitis, held in Philadelphia, June 14 to July 12, 1943, under the sponsorship of the Philadelphia Chapter of the National Foundation for Infantile Paralysis.
5. MARSHALL, ROBERT: The vitamins of poliomyelitis, MED. REC. (Sept.) 1942.
6. MCCORMICK, W. J.: Personal communication, September 19, 1942.
7. GUDAKUNST, DON W.: A fringe of knowledge about poliomyelitis. First lecture in the symposium.
8. STRAUSS, I.: Pathology of poliomyelitis. *Bull. Illinois State Board of Health*, September 1910.
9. LEBOUTILLIER, THEODORE: Private communication, October 3, 1916.
10. JUNGEBLUT, CLAUS W.: Vitamin C therapy and prophylaxis in experimental poliomyelitis. *Jour. Exper. Med.* 6:1:127-146 (Jan. 1) 1937.
11. BEST, CHARLES, and TAYLOR, NORMAN BURKE: *The Physiological Basis of Medical Practice*. Third edition, pp. 1290, 1091, 1088, 1339. Baltimore, Md.: The Williams and Wilkins Company, 1943.
12. HOWE, HOWARD A.: Neuropathology in poliomyelitis. Second lecture in the symposium.

A complete list of references will be included in the author's reprints.

[2]Vitamin C complex is now concentrated by a method developed by the U. S. Citrus Products Laboratory. A thick flavorful syrup is obtained which contains eighty-five percent of the original vitamin content.

THE ILLS OF THE MEDICAL PROFESSION

One Solution

LEON TRUDEAU SALMON

Lambertville, N. J.

A mechanical engineer, writing in the *Atlantic Monthly,* a publicity-seeking politician, and an editor of a scientific magazine have severally committed themselves to a diagnosis and plan of treatment of the ills of the medical profession. They have, in common, group medicine as their remedy. They attempt a prognosis, and outline a regimen of future conduct for the physician's professional work. Certainly this is both brave and unique, at least it would seem so if the set-up should be reversed. The present-day pattern of formulas regulation for things in general has caught in its mesh the medical world. Group medicine is the vaunted panacea. The nonmedical mind rushes into a maze of problems, which the professional medical mind cannot unravel, and offers a theory which ought to work in literally hundreds of situations of which the remedy-provider knows nothing. Group medicine may function well in urban and suburban areas, but it must be remembered that a large percentage of the population is rural. Rural group medicine, in satisfactory operation, is impossible for the practicing rural physician to visualize. Neither the necessary equipment nor the specialized physicians can be requisitioned from the local laboratory outfits nor the personnel of general physicians spreading their services over large areas. The medical and economic condition of even the immediate future cannot be safely reckoned with, much less that of 1960.

At present an annual gift by the medical profession to a public too poor to pay fees approximates ten million dollars. This includes medical and surgical care and often medicaments. This burden has neither been stressed nor been the subject of complaint. While it solved the problem for years it has now fallen into disrepute, which, in the minds of the reformers, is an expression of the indignation of the unfortunate poor who are represented as anxious to avoid help in paying their bills! Judging from the experience of the past ten years in the workings of the unit herein described, the poor are more than avid for help. Few of those aided have insisted that the help was a loan. It is now proposed by the critics of the present plan that this ten millions be now added to the government's expenditures, together with the huge indefinite sum required for the medical and surgical care of all taxpayers, plus administration charges!

The medical profession is accused of neglecting science. This criticism is entirely unwarranted and any fair investigation of present professional methods of practice could but disprove this blanket contumely. Large groups of cases lend themselves to easy diagnosis through the single means of trained observation. Internal medicine, at the other swing of the pendulum, needs and gets, through hospitalization, the entire battery of laboratory tests which are beyond the local physician's necessarily limited scientific equipment. In this way a better group examination can be had than is possible in remote organized consultation work.

At the present time a large percentage of the major cases are hospitalized and are subjected to thorough scientific study, when indicated. It is patent, then, that the layman who makes such statements of scientific neglect has not kept abreast of his "unscientific practitioner's" habits of work. Further, modern modes of transportation have brought within a narrowing time-circle more numerous well-equipped institutions with their well-manned staffs of physicians, surgeons and technicians.

Incidentally, the layman's implicit faith in science as the final arbiter of all diagnosis decisions is quite pathetic. Laboratory errors and technicians' differences of interpretations are still in some degree a stumbling block. The experienced doctor learned long since to scrutinize his own work and also that of the laboratory.

The disparaged "art of medicine" includes gathering all the pertinent nonmedical facts, as well as the family history, the clinical history of the case from its beginnings, together with a careful physical examination, facetiously called "chest thumping" by our critic, all of which contribute to the probability of correct conclusions and often establish the demand for the battery of chemical, microscopic and x ray examinations now in common use in all hospitals. In general practice the "group" is completed by the hospital where the atmosphere of the specialists and the scientists outshine the rural group team-work of any set-up.

The numerous varieties of functional affections, now more common than ever, unfortunately have their causal factors well beneath a welter of unknown physiological chemistry which do not lend themselves to scientific analyses, but are the heart of the inscrutable secret of life itself. The various automatic organs are the manufacturing-plants of internal secretions which cannot be synthesized and are thoroughly interacting and interdependent, while they express themselves, by means of blood and lymphatic carriers, through distant, otherwise unrelated organs. They play the symphony of normal life through the orchestration of the whole ensemble. Dysfunctions produce protean types of disturbances in the norm, from the psychic on through many components of the physical equipment. These dysfunctions are not difficult to recognize but their correction is not within the province of science, substitution extracts excepted.

The financial-factor stimulus of the group plan might better be considered as fundamentally an economic vice and the correction built around that phase, since medicine is not the only want of the family which stems from insufficient income. The attending physician has no other recourse than that now in operation. Incidentally the rural physician is still the same man and not a different scientist when he becomes part of a group. Further the purpose of this article is to aid in a constructive program attempted by the medical critics and to submit the description of a working unit about which, with sympathetic aid from all interested, may grow an effectual and perpetual rural remedy. It is difficult to vision group work in sparsely-settled com-

munities with great distances, little gas and few tires.

The rural community in which the writer lives has a population of about ten thousand, living in an area of fifty square miles. For a period of over ten years no needy person has been without satisfactory care in this locality, receiving, upon establishing the need, medical and surgical care as well as ambulance transportation to and from hospitals and the necessary follow-up service when requested by the hospital chiefs. All acute illnesses are included.

Memorial Fund for the Sick Poor

Two successful businessmen, after making certain other bequests, left their residuary estates in the care of a named board of trustees, to establish a memorial fund for the sick poor of the community. The combined estates now have a total value of a third of a million dollars and an income of about twelve thousand dollars yearly, over nine thousand of which has been used yearly for the community's needs.

The board of trustees is composed of local businessmen, who serve without remuneration, the writer being the only medical representative. A finance committee and a salaried secretary are the between-meetings operating machinery and the fixed charges are less than ten percent of the income. Applicants have but two things to do in making their request for services: 1, send a physician's written diagnosis of their condition, and 2, establish their financial need of help. Accident and emergency cases attend to these requirements after the case is accepted. The various hospitals, all within fifty miles, are under written agreement to accept patients, sent by the Fund, at conservative rates. All these institutions would, without the Fund payments, add this work to their large lists of charity patients. These otherwise free hospital cases bring about eight thousand dollars to the various institutions yearly. Payments are prompt.

Prior to the quite unexpected establishment of this memorial fund no one in this community suspected the possibility of there being two local men who might wish to create such a monumental beneficence. Publicity, on a wide scale, has not been undertaken, awaiting enough experience to establish a real value and to ferret out whatever ills were intrinsic. After ten years it has been thoroughly established that this plan is the solution of the local medical needs and it brings the fortunate and the unfortunate to an equality in their care when ill.

During wartime, duplication of this fund in other communities cannot be expected to be common or rapid. However, it is not likely that our particular locality is unique in the possibility of such a financial setup, which may be as potential in many communities as it was here. The perpetual good to fellow-men inherent in this plan cannot help making an appeal to others. No memorial can compare with such a benefaction, stretching through the years ahead.

It will be seen that here we have a workable plan which provides scientific care through established institutions and at the same time excels the group work possibilities; which secures equal professional attention to the entire populace; which relieves the local taxpayers of the costs of care of the indigent; which relieves hospitals in their charity costs and which keeps the local medical men on their toes in order that they may have correctly labeled the applicant's case when the fund is brought into the picture, whereas otherwise work for the nonpaying patients might be careless. The aged, the chronically ill as well as the insane are provided for elsewhere by established institutions.

In urban, suburban or rural areas this plan will succeed and it is recommended that it be given wide publicity *now*.

Comments on Wisdom Teeth

C. Bowdler Henry (*The Lancet*, Feb. 1935) presents his findings in a study of the incidence of complications arising from the abnormal eruption of wisdom teeth. The research was based on a study of cases in his own practice and those reported in the literature. The complications varied from minor discomforts to grave illnesses and even death. He found there was no sex differentiation. The age varied from fourteen to eighty-four, the commonest being the third decade. The symptoms fell into two groups; those due to pressure or reflex irritation and the much larger group associated with septic infection. Cases were cited to illustrate the serious nature of these infections and the grave consequences of failure to recognize the existence of complicated eruptions. Conditions which had been relieved by the extraction of wisdom teeth, as described by the author, included intractable headache and pain in the lower jaw, facial neuralgia, muscular spasm, nervousness, sleeplessness and iritis. The association between dental complications and the psychoses was emphasized and several cases showing the results obtained by extracting impacted wisdom teeth were reported.

Some authorities believe there is only one complication of erupting wisdom teeth, viz., infection, that in the absence of a pericoronitis there is no complication. Henry says that while infection plays a large part, he has records of cases where the tooth appeared perfectly healthy and yet grave symptoms resulted from its unerupted existence in the jaw. The problem seems to be, he says, why should the wisdom tooth fail to erupt normally in a particular case. He is continuing his investigation with the object of finding an answer to this question and ascertaining whether climate, nutritional, genetic and other factors play a part.

While the undersigned heartily endorses the ideas expressed in the foregoing paper he feels that, as Myer Solis-Cohen has emphasized, eradication of a focus of infection does not necessarily remove the infection but only the major source of the infection. Occasionally, the focus of infection plays such a considerable role in the etiology of the disease associated with it that eliminating the focus results in temporary, or even permanent, elimination of the systemic symptoms. In most cases, however, it is necessary to reduce further the toxic load on the body and to increase immunity by stimulating the production of sufficient antibodies to prevent recurrence of the infection. The former requires attention to all possible body dysfunctions, foci of infection, nutrition, etc. The latter requires not only that the antigen be qualitatively and quantitatively sufficient to stimulate the production of a high titer of specific antibodies, but also that the administration of the antigen be undertaken with sufficient skill to insure optimum stimulation of the antibody-producing mechanism of the body.

E. C. Titus, M.D.
New York, N. Y.

Symposium on Apparatus and Appliances

A PORTABLE MINIATURE OPERATING THEATER

Designed for Use on the Battlefield

GEORGE RICHMOND
Brooklyn, N. Y.

The time factor in emergency war surgery was discussed in a previous article[1]. As a method of time saving the importance of having ready at hand a compact, well equipped set for use on the battlefield was emphasized. The following is a detailed description of an apparatus which I have devised for this purpose.

Description of Apparatus

The present medical operating arsenal is constructed of plywood, held together with wooden pegs glued together; hence, releasing metal for other war uses. It is shellacked twice with a good five-pound cut shellac and dried for three-quarters of an hour, or a quick-drying lacquer may be used instead of shellac. The medical operating theater may also be constructed of either well-wood, masonite, formica, or any other suitable composition, alloy, plastic, or other synthetic material. It must be emphasized that the material must be sanitary and easy to resterilize. It must be waterproof to withstand the torrential downpours of the Pacific, also acid-proof, and it should keep the inside materials sterile under all conditions. It should be round, not too bulky for transportation when flown to the various theaters of war. The constructive material should stand up to all war conditions and under all climates in this global warfare. In addition, this medical arsenal set should be camouflaged on outside with the modern gray and grayish-green colored spots.

At one end of the miniature operating theater there should be a flashlight built-in-attachment for throwing light downwards (Fig. 1), assisting not only to arrest vessels arising from (22) "penetrating wounds of the skull and brain, such as gunshot or shrapnel wounds, if they affect vision", giving rise to a partial or complete homonymous hemianopsia, depending on the situation and the depth of the intracranial wound; but, in addition, arresting bleeding vessels thus helping to prevent secondary wound shock with its complex pathology.

If the miniature operating theater is placed upwards (Fig. 3), on the hinged arrangement or if certain conditions should arise which would warrant curtailing the light, the light can be turned to shine downwards dramatically with a little effort by adjusting the body of the set with a slight stroke downwards; or by shutting off the side-light, which acts as an additional feature. These side-lights may be required to assist handling and removing casualties; increasing the light intensity whenever necessary for an emergency operation, or when confronted with additional hardships, such as blinding snow storms, or when striving under shell fire in order not to reveal one's position. The use of the side-light may also be necessary when the other light fails, or when an emergency operation must be performed in the jungle, where the thick damp foliage or jungle brush blacks out the sky and requires an additional light both day and night. It is apparent that in these difficult terrains, where the hot tall kunai jungle growth is so dense that friend and foe look alike, the thick jungle grass and vast overhanging towering trees with trailer roots would darken the rays of the sun even during the day. Consequently, precious time may be lost in setting up an additional light when one is needed to assist the operator or the first aider in helping the astasia-abasia victim wherever he is found.

Furthermore, the down-light (Fig. 4), a special new technique for combat, can be used for suturing and the side-light can be used to see the surrounding ground and/or, for signaling for additional help without removing the down-light. Each light has its own switch and thus has its own control; for, light which cannot be controlled in dense difficult jungle terrains draws fire from the enemy. Hence, if lives are to be saved, every surgeon, first aider, or medical assistant should learn the advantages of controlling light. This miniature operating theater provides for such an emergency. Furthermore, in addition to the provision of light a built-in illuminated watch is also attached to the suture set to give the time in the dark.

The round, torpedo-shaped suture set (Fig. 2) is so constructed as to take the stress and strain whenever crushed, or if it should fall; besides, it is handy to carry in all fields of warfare. The set is thirty-six inches long and six to seven inches wide, and is divided into several handy compartments, each of which is suitable for holding in position the instruments and all necessary equipment (Fig. 1). Upon opening one-half of the bevelled door by pressing on the release knob which is made of synthetic alloy or plastic, the first compartment can be seen. On the inner side of this one-half of the door is a suitable place for the attachment of all emergency needles and suture material. The hinges which are also made of synthetic alloys or plastics are to be notched or grooved in—so that when the doors are closed they look like one piece, the opening being invisible from the outside; hence, providing a closed joint for air-tight compartments.

One half of the door has a catch and the other a release knob to press inwards in order to release the spring from the catch from the other door. On the inner side of the other outer half of the bevelled door are placed suture material instruments necessary for assisting suturing, while in the deeper portion (i.e., the bottom) of this 'gouch compartment' (socalled by me),

[1]Richmond, George: Time factor in war emergency surgery. MED. REC. 157:2:102-04 (February) 1944.

sterile dressings in packages and gauze bandages with sterile towels, carefully folded up, are placed. The compartments have partitions made of the same material used for construction of the medical arsenal operating set.

In the middle compartment, i.e., on the inner half of one door, are placed, in suitable pockets, hypodermic syringes, T.A.T., vitamin pills, stimulants, adrenaline,

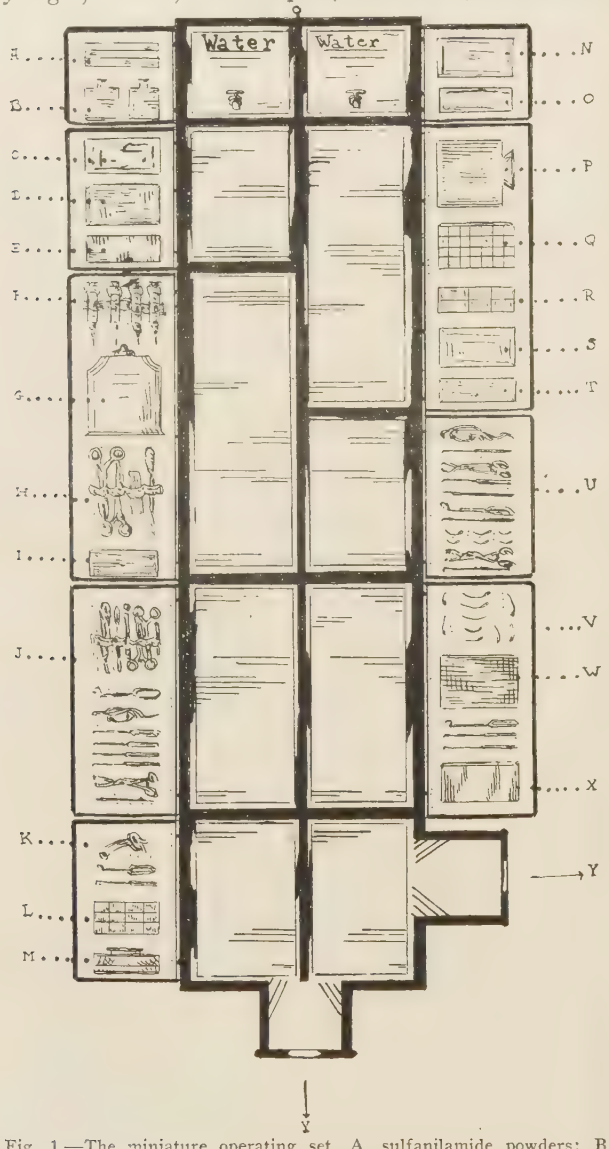


Fig. 1.—The miniature operating set. A, sulfanilamide powders; B, tincture of green-soap; C, sterile water tablets; D, sulfathiazole tablets; E, penicillin; F, syringes; G, alcohol; H, surgical instruments; I, triple dye; J, surgical instruments; K, tracheotomy set; L, spare lenses; M, morphine syrettes; N, dressings; O, adhesive; P, antiseptics; Q, T.A.T.; R, adrenalin; S, coramine; T, morphine; U, surgical instruments; V, needles; W, silk sutures; X, catgut sutures; Y, light.

antiseptics, penicillin, and penicillin-B. These pockets are constructed of white waterproofed material, such as eight ounce duck, strong cellophane, muslin impregnated with starch to stiffen the muslin, or starch-loaded nylon. The pockets are glued down with a waterproofed glue and kept under a press for twenty-four hours for strong adhesion. On the other inner portion of the door are placed sufathiazole tablets, sulfanilamide powder, sulfamerazine, or sulfadiazine, each item properly labelled being placed in its own particular pocket, or inserted under an elastic holding strip. If elastic holding strips are used, they should be made of webbing, one-half inch wide, on which labels can be sewed or pasted on. If webbing elastic strips are used instead of pockets, they also should be fastened by water-proofed glue, and kept under a press for twenty-four hours. Before attaching the webbing elastic strips the underlying surface should first be roughened for the glue to secure stronger cohesion and adhesion. In addition, wooden pegs can be added to the ends of the elastic webbing to strengthen further the attachment of the strips. These wooden pegs are to be pushed through the distal portions of the strip attachment and glued.

In the 'gouch compartment' are placed sterile dressings, spare suture material, sweet chocolate or any other required necessities, depending upon the location. For example, quinine or atabrine is a necessity in the South Pacific theater of war, where there are more casualties from malaria than from Jap bullets; while spare glasses for gargles or sterile drinking water with sterilizing water tablets are a necessity to relieve unquenchable thirst of desert warfare.

In the last compartment can be placed sterile package dressings, adhesive plaster, antiseptics, tincture of green-soap, cravat bandages, and identification tags. In the 'gouch compartment' can be placed narcotics or sedatives necessary for first aid and suitable tags for casualties, recording what was done for the patient before removal to a field or base hospital. In addition, one can also include a small magnet, with an illuminated face, weighing one-quarter of a pound, which not only assists the illuminated compass in direction guidance, but also in the removal of small foreign bodies from the eye, and aids with the diagnosis of foreign metal impacted bodies in the eyeball. Consequently, "it should be borne in mind that in warfare the globe may be perforated by a foreign body piercing the lid and entering the eye behind the conjunctival fornix" (23).

On the top of the torpedo-shaped suture set (Fig. 2), is a screw-hook for hooking the operating theater to branches of trees, or for a rope attachment to some suitable spot, or even a shoe-lace can be used in an emergency for attachment to whatever suitable spot can be found, whether it be a rifle, a bayonet, a 'Katusha' gun, a 'Bazooka', the log of a tree, the side of a jeep, or a car. The hook can be folded down when not in use. In addition, on the back of the medical arsenal set is placed a clip similar to that on a fountain pen. This clip, furthermore helps attaching the set to the uniforms or to clothing of less seriously injured victim or victims or even to a medical assistant; or to any other object suitable for catching a clip in order to hang the operating theater upright.

On the front of the uppermost compartment, there is a built-in-illuminated compass to be used in an emergency for guidance or, in ascertaining the direction back to the lines when lost or cut off from other personnel in the darkness. It may be stated here that our Marines accomplished extraordinary triumphs on Guadalcanal when they carried compasses to assist them in getting through the thick jungles when lost in the darkness of the thick foliage and enormous overhanging trees.

This medical arsenal operating theater should also have two suitable notch-bars with a tunneled groove with one-quarter inch free play underneath in order to act as a "hold" for the slide of the "top of the support". The notch-bar for the "top of the support" should be

on one side, three-eighths of an inch thick above the surface, and two inches long and one-half inch wide, with a tempered steel spring to act as a catch. Thus, four catch-bars are constructed for the supports in order to be placed into the notches, thus acting to support the set. The notch-bar is placed six inches from one end and the other ten inches from the other catching notch-bar support.

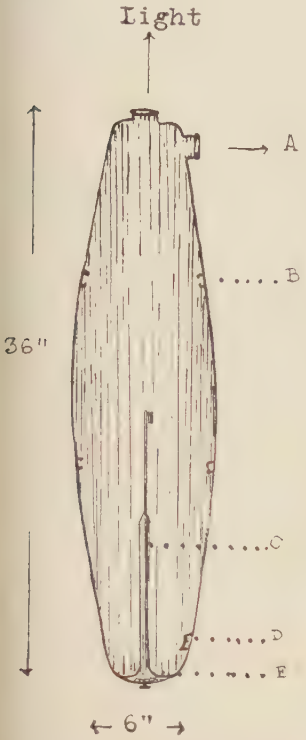


Fig. 2.—The round, torpedo-shaped miniature operating theater A, light; B, notch for support; C, clip on back side; D, illuminated watch; E, hook.

These supports can be utilized, not only in desert warfare whenever confronted with sand, but also in the vast barren snow waste-lands of the far frozen north. In addition, they are advantageous for application on a floating raft, in mountain warfare, or in swampy conditions. When once the supports enter the catching notch-bar, the spring locks backwards and the support cannot come out until one uses effort for its release, the supports being from three feet to three and one half feet long, i.e., above the ground. The supports should have a 'catch and lock' arrangement with a screw through it eighteen inches from one end in order to turn the suture set from a vertical position to a horizontal, whenever necessary, as in an emergency requiring curtailment of the light downwards. In addition, the supports should be constructed with another support three inches away and tapering off in a V shape towards the top. The top of the support should have a flat T shaped arrangement five-eighths inches wide so constructed as to enter the one half inch notch having the one-quarter inch tunnelled groove, giving free play to the arrangement for holding the spring. This device locks the T shape flat support and acts as a catch-and-lock until released with effort by the grouped skill of a diagnostician, a practitioner, a pathologist, a radiologist, and a surgeon—all added up spelling "Medical Officer", which has made the heroic medical service one of the triumphs of the war.

The T shaped arrangement being one and one half inches long and one-eighth inches thick for the bevelled ends of the catch-and-lock spring arrangement, these two or four supports, when inserted into catching notch-bar, supports the suture set in a vertical or horizontal position. In addition these supports when not required to support the suture set can be utilized for splints by keeping (28) "the joints immediately above and below the fractured bone at rest", thus helping to immobilize a fractured limb. They may also be used as crutches after being well padded, or can be used to construct an emergency stretcher for the removal of a severely shocked or severely crushed victim to a field hospital.

The tapering point at the bottom part of the support is one and one-half inches long. With this point, the set can be used with advantage on board ship, especially by the merchant marine, rendering assistance to victims of torpedoes which have damaged some parts of the ship. With a little effort the point is stuck into the wooden floor of the deck, thus providing suitable light and operative necessities for prompt first aid on the spot.

The lower end should have a sliding arrangement with a reversed T, one-half inch wide, set on a figure of eight hole to be moved down over the pointed surface whenever a slat support is required. The movable clamp is two inches high, the crossbar of the inverted T is two inches wide, projecting one-quarter inch from its free surface, and two tapering ends act as one support, being three inches apart at the lower free end. (In addition, a movable arrangement on teeth is to be constructed on the author's own patent, patent applied for, U.S. Patent Office, 1943, serial Nos. 490,864, Washington, D.C., providing a telescopic arrangement for lengthening and shortening the supports whenever an additional height is required which can be also utilized with advantage). Furthermore, adjustment of length (Fig. 3) provides suitable help in assistance in fox holes without having the suture set too high above eyelevel to reveal any light to the enemy. This problem, therefore, is lessened and entrusted to this additional achievement holding much promise for controlling the intensity of light. In addition, a suitable amount of light is required for the welfare of the eyes in the removal of (24) "all foreign bodies projecting from the palpebræ, conjunctiva and the skin surfaces of the lids also those deep in the substance of the lids around which infection with pyogenic microorganisms has occurred."

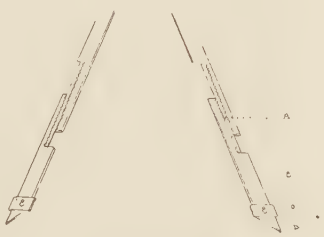


Fig. 3.—Adjustable support. A, Expanding teeth; B, support; C, guard; D, point.

Application of the Miniature Operating Theater

The set is unfolded from its covering which protects the contents, and placed in a suitable spot. If supports are decided on, these are placed into the catch-bars and the lights adjusted to the suitable surrounding conditions. Then the bevelled doors are opened by releasing the catch-spring and the various compartments containing the contents come into view. If one decides to hang the set, the catch-hook or clip can be used for proper support, and the supports can be used for splints in a fracture or for an emergency stretcher. After proper care has been given to the

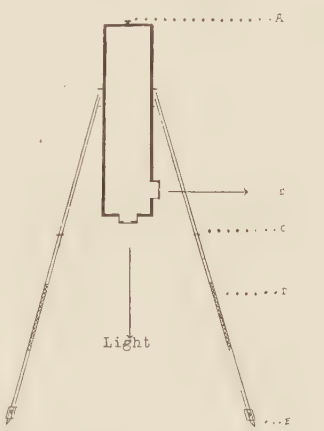


Fig. 4.—Showing position of lights when miniature time-saving operative theater is placed upward on adjustable support. A, hook; B, light; C, for bending; D, expanding teeth; E, points for insertion.

casualties, the suture set is folded up and transported by placing it into a pocket of a knapsack worn on the back of the first aider or the operator handling the set, thus releasing the hands for other important things during the advancement to other casualties. In an emergency, all that has to be done is to remove the set from the back of the knapsack pocket, set it up, and light the suitable light and start administrating to the casualties the necessary treatment of stopping severe bleeding, preventing infection, administrating morphine with the syrettes, suturing wounds and stopping bleeding vessels around the cranial region; thus helping to prevent amblyopia as was pointed out by Professor Williamson-Noble (1940). Then we apply first aid treatment for shock, for "the severity of the shock is in direct proportion to the gravity of the wound" (25). Furthermore, the time element in the proper application of treatment to the wounded is subservient to the surroundings confronted at the time of the circumstances.

After treatment: All necessary treatment is inscribed on the identification tag and attached to the civilian or service wounded for future care to be carried out either at a casualty station, a field hospital, or base hospital in suitable surroundings. We must realize that (26) "in addition to the projectile, we must remember that the discharge contains wads, gases, flame and particles of unburnt powder, all of which may produce an effect on the body". Hence, these patients require further treatment and hospitalization under careful observation in a more suitable spot. Speaking broadly, it may be added that further treatment, hospitalization, or convalescence depends on careful first aid treatment, rendered by surgeons or assistants, using these miniature operating theaters, to all peoples in all corners of the globe. It is of great interest, as previously stated, that these time saving operating theaters will ultimately produce far reaching effects when used by our heroic medical service men working under the most unfavorable circumstances, requiring speed as a major factor in the early treatment of extensive or multiple wounds, basing judgment on the 'spot', but benefiting from a certain moral satisfaction in having a compact handy set at their disposal. The paying dividend cannot be stated in dollars and cents, but the preservation of life will be called the 'polymerization' and leave its imprint on the proudest chapter in the history of the second world war, the work of the medical service men.

References

11. GORDON-TAYLOR, GORDON: *Abdominal Injuries of Warfare*, page 87.
12. DENNY-BROWN, D. E., and RUSSELL, RITCHIE W.: *Proc. Roy. Soc. Med.* 34:11, 691 (Sept.) 1941.
13. BRADFORD, CHARLES H.: *Proc. Roy. Soc. Med.* 34:12, 787 (Oct.) 1941.
14. RICHMOND, GEORGE: Patent Applied. United States Patent Office No. 490,864, Washington, D. C., 1943.
15. JOEKES, T.: *Post-Grad. Med. Jour.* 16:172, 42 (Feb.) 1940.
16. RICHES, E. W.: *Practitioner* 896:150:2, 95 (Feb.) 1943.
17. WAKELEY, CECIL, P. G.: *Post-Graduate Med. Jour.* 16:174, 134 (April) 1940.
18. ROBERTS, J. E. H.: *Post-Graduate Med. Jour.* 16:173, 80 (March) 1940.
19. RAVEN, RONALD W.: *Post-Graduate Med. Jour.* 16:175, 152 (May) 1940.
20. STALLARD, H. B.: *Post-Graduate Med. Jour.* 16:176, 179 (June) 1940.
21. MITCHINER, PHILIP H.: *Post-Graduate Med. Jour.* 16:175, 157 (May) 1940.
22. WILLIAMSON-NOBLE, F. A.: *Post-Graduate Med. Jour.* 16:176, 207 (June) 1940.
23. STALLARD, H. B.: *Post-Graduate Med. Jour.* 16:176, 192 (June) 1940.
24. STALLARD, H. B.: *Post-Graduate Med. Jour.* 16:176, 185 (June) 1940.
25. RAVEN, RONALD W.: *Post-Graduate Med. Jour.* 16:174, 121 (April) 1940.
26. SMITH, SYDNEY: *Forensic Medicine*, page 169.
27. *First Aid in the Royal Navy*. London: His Majesty's Stationery Office, page 58.
28. *First Aid to the Injured*. London: St. John's Ambulance Association, page 67.

242 HERZL STREET

INCOMPLETE TOURNIQUET

JOSEPH F. BICAK
New York, N. Y.

Treatment by intravenous injection is steadily gaining in favor. Most injections irritate the veins, more or less, depending on the substance injected, its concentration and the susceptibility of the patient. This irritation results in narrowing of the lumen of the vein, thickening of the wall and increased resistance to penetration by the needle. If the injections are kept up long enough, the vein becomes definitely unfit for further use, or "used up". Some patients have small veins to start with.

For many years I have used a device which may be called an incomplete tourniquet. It consists of a band with self-fastening buckle, and an arch of metal interrupting the band. When in use, the band is placed around the arm at the level of the site of injection. If the vein is not very superficial, it is better to place the band a little higher. The arch is placed over the vein to be injected. The band is then suitably tightened, not affecting the arterial flow seriously.

The result is that the flow of blood through the used vein is not hindered, since there is no pressure on it. The flow through the other veins is interfered with, the extent of the interference depending on the amount of pressure exerted on them. The additional blood that would flow through them if the tourniquet were not there goes through the used vein instead.

This diverted blood causes an increased rate of flow through the used vein, which dilutes the remedy more quickly, and removes it from the site of injection much faster. Consequently the resulting irritation of the vein is much less than it would be if the injection were given in the usual way.

Therefore the available veins of the patient can be used longer before they are used up, the patient can get the benefit of the treatment longer, and the treatment is easier for the doctor to administer.

Before using this device, the intravenous treatment in some cases had to be stopped, because the veins which had been available at first, became unfit for it. Since beginning its use fourteen years ago, I have not found this to be necessary in any case.

MOSHOLU PARKWAY SOUTH

HEARING AIDS AS A PARAMOUNT MEDICAL RESPONSIBILITY

IRVING WILSON VOORHEES
New York, N. Y.

It is strange but true that the attitude of the public towards severe deafness has outpaced the attitude of the medical profession for many, many years. When a deafened patient comes to us for relief, we may smile and try to show a sympathetic interest, but all the while our professional hand is on the theoretical (or actual) doorknob, while our wits are at work seeking a polite "brush-off." The result is that doctors of medicine, the socalled general practitioners who are most likely to be consulted first lose caste as medical advisers, at least, in so far as the hearing problem is concerned. But the otologist is even more at fault if he, after examination, admits that "nothing can be done" and lets the patient out of his office with the advice to "try one of the hearing aid companies". If anyone objects to this aspersion, let him hold his peace, for I too have been guilty of this breach of professional responsibility. My behavior is somewhat better, now that I have seen the fruits of this attitude.

Ophthalmologists are out in front when it comes to the disposition of such problems as belong under the heading of "professional and public relations". At the New York Academy of Medicine there are three Committees to "sit" on matters of this sort. 1, a Committee on Ophthalmological Public Relations; 2, a Committee on Industrial Ophthalmology; 3, an Advisory Committee on Legislation Covering Optometry and Opticians' Practices. But in the Section of Otology there is no committee covering the broad area of industrial otology, commercial practices by such groups as hearing aid companies, or on compensation and rehabilitation needs. Perhaps it is merely necessary to point out this defect, and action will be forthcoming. We shall see.

Everyone knows or should know that this awful war will return to socalled "organized society" a vast number of men and women deafened by concussion of gunnery and other conditions incident to battle—infections of middle ear and mastoid, for example. The War Department has foreseen this and has set aside three hospitals to handle such cases. More, of course, will be needed, but this is, at least a beginning. These institutions are situated at Butler, Pa., Santa Barbara, Cal., and Chickasha, Oklahoma. Furthermore, the government protocol declares that deafened personnel of the Armed Forces shall be treated only by competent specialists, and that hearing aids shall be "prescribed only by competent specialists in the field of otology." The government will also have physicists at hand to aid the otologists when necessary in preparing and fitting proper hearing aids. This is the most forthright and heartening plan which has come to my attention; for the physicist is, today, a recognized associate of the otologist in the accurate fitting of hearing aids.

Circular Letter No. 162, of the War Department, provides a general outline of a medical program for deafened personnel. The designation of physician and otologist working as a "team" helps to define the hearing aid as a physiotherapeutic device. This our government has long publicized (U.S. Public Health Service) as a form of medical therapy, and has aimed to keep it where it belongs; namely, within the purview of medical science. Legislative interest in the medical treatment of deafness during 1943-1944 has been growing, and the investigation of audiometers and how they can be improved in making a diagnosis and pointing out the type of hearing aid best suited to the individual's needs has been undertaken in attempting to draw up programs of rehabilitation.

Now looms large the physicians' responsibility for a followup to the program being set up by the War Department. As previously stated, the U.S. Public Health Service has given out many statements as to who needs hearing aids, and by what standards this can be determined. It is recognized that vocational guidance and rehabilitation are highly important, but these should be and must be secondary to medical examination, diagnosis and treatment. Treatment must include testing and fitting of hearing aids in routine medical practice. Then vocational rehabilitation can be more adequately accomplished, but it is obviously unsound practice to use vocational guidance as a standard to determine a patient's need for a hearing aid.

Any person who seeks advice from a hearing aid organization whether it be a commercial concern or a social service agency, established with the best of humanitarian intentions, should first have medical clearance, that is, otological diagnosis and at least a month of intensive treatment if the otologist has hope of bringing back even a part of the lost hearing. Some will say: "Are doctors willing or able to include such services as routine practice?" The answer is "yes". Much of the otologist's work is being taken over by laymen, and a study of the aurist's methods of testing and fitting has been undertaken by nonauthorized persons. They use medical terminology and diagnose and define the character, kind and degree of hearing loss. In one of my patients, an attempt had been made to fit an aid into the auditory canal of a person whose canal was obstructed completely by a "bullet" of wax.

Claims and counterclaims fly back and forth relative to the value of audiometers and audiograms. These contradictions are confusing both to the public and the medical profession. Lay persons take impressions of the auditory canals in order to make a mold for the attachment of an air receiver. They use such devices as specially lighted instruments to examine the canals, remove wax or hair, and undertake any other measure which will help to get an accurate mold of the canals. This is in the interest of the patient, to be sure, but where will it stop? The next step is, perhaps, the treatment of deafness by agencies which so far have remained in the hands of physicians. Too often these laymen indulge in high-sounding technical words and phrases which impress the ignorant or gullible with knowledge which the speaker does not possess. This is regarded as "good selling talk".

When we examine an "aid" in terms of the physicist and the laboratory set-up for acoustical tests and an-

alyses, it becomes evident that the engineer's design for amplification of sound is based on personal opinions of hearing function, rather than upon scientific standards. It is unfortunate that data which can be derived only from research are so meager at this time, especially as to what a deafened person requires for an adequate hearing aid fitting.

It is a heartening fact that a university laboratory (Harvard) has been authorized by the U. S. Government to evaluate, by conducting comparative studies of audiometers and hearing aids, and thus to reveal the operating efficiency of instruments now on the market. This has been a crying need for many years, but it is a tedious process at best and is, therefore, time consuming. Out of it may come an effort to include clinical studies of hearing aid fittings as done in routine medical practice. This is antecedent to legislation and is tied in with medical economics. It will help determine where one may look for cooperation or where one may expect to find antagonisms and defeatist propaganda. But, in any case, one must view the entire problem from the viewpoint of human relationships which are necessarily dependent upon medical skills for advice and relief. When the war approaches its end, we shall be fairly swamped with individuals who seek immediate aid to hearing preparatory to earning a living again in commercial pursuits. But even now there are thousands of socalled "war-workers" who are being deafened by the terrific noises engendered by machinery in factories which are making materials and tools for the war effort. These will need medical and especially otological, advice and help. Such a plan of action precedes any and all "vocational guidance", but such guidance will come later on as a welcome adjuvant.

If this article is to have any weight at all, it is hoped that doctors of medicine who are not specialists but who become responsible to patients when consulted will not merely "pass the buck" or "kid" those who come seriously asking for help. Loss of hearing is next in importance to loss of sight, and the best advice obtainable is none too good. The otologist will cooperate with the general physician without regard to fee or personal aggrandizement in providing much-needed counsel. He will make an accurate diagnosis and treat the patient if treatment is likely to help, even to a small degree. Then, if a hearing aid is necessary, he will prescribe the type and kind of aid best suited to individual needs. The patient will be told how, where, and when to purchase an aid. He will then return to the otologist for a check-up. The entire obligation is not discharged until complete hearing satisfaction is obtained. Otherwise, the aid will have "bureau drawer life" only, and the patient will have merely disgust for everyone and everything concerned with his disability.

Preparing the patient psychologically for the wearing of an aid is sometimes a prolonged and difficult procedure. There seems to be a feeling of stigma in the use of an aid to hearing; but an aid to seeing is accepted gladly. How to balance these in an even scale is in itself a problem of no mean dimensions, but it can and must be done.

140 EAST FIFTY-FOURTH STREET

DOLORIMETRY IN MEDICAL PRACTICE

The Quantitative Measure of Deep Sensibility and of Pain

L. J. B. GLUZEK
Cleveland, Ohio

A number of sensitivity tests have been devised, tried and forgotten. Only those which serve to determine the superficial pain level are employed. As a pure deep sensitivity test, Libman's should be mentioned, which, however, serves only to estimate, and is not sufficiently convincing. Disturbing sensations of the skin travel on independent pathways, and their cortical evaluation is different from those of internal origin. Physicians are intrigued by pains of the hidden sources, and dolorimetry reveals them.

Technique of Sensibility Test

To be of practical value in diagnosis, the sensibility test should disclose the *deep* sensibility of the patient, the determination should be clear-cut, i.e., quantitative and convincing. It should not be time consuming nor complicated. To comply with these requirements, thousands of experiments were made, and a standard double pressure apparatus, the dolorimeter (Fig. 1) was developed. In its center is a nine millimeter diameter metal rod, the "inductor" (I), which, manipulated by a screw (S_1) and activated by a spring, exerts gradually increasing pressure on the flat surface of the shin bone. (To compare the pain tolerance of different persons, it is imperative to apply the standard stimulus on identical receiving sets.) The patient indicates when the inductor *starts* to hurt. The inducted pressure (first indicator, A) is the equivalent of the patient's deep pain threshold. However, before accepting it as such, the patient's indication has to be verified. The "commutator" (C), a rubber disk which surrounds the inductor, serves this purpose.

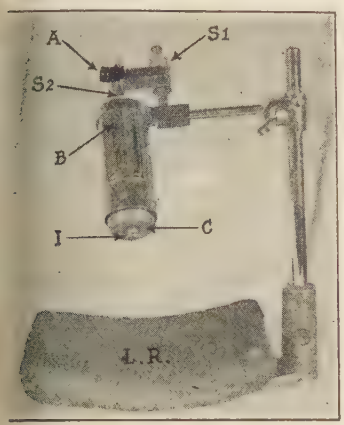
The inductor is left in situ. The patient is told to indicate when the artificial pain ceases. The commutator, manipulated by the lower screw (S_2) exerts pressure around the inductor, and alleviates the inducted pain. The patient feels pressure, but no pain. The commutator's index (second indicator, B) should be noted, and then its pressure released. By this, the inductor's previous pressure again becomes active, and the patient says that it hurts. This proves the correctness of the indications.

Considering the dolorimeter as a standard, it might be stated that 1500 grams pressure represents the mean average pain threshold. Persons whose pain threshold is mean average will not experience pain from insignificant causes, but they are sufficiently sensitive to have pain from a developing glaucoma, an incipient appendicitis, etc. Their watchdog is properly alert.

Deep sensibility dulls with age, but exact figures are not yet available. Children were found with high

hreshold, and also very sensitive septuagenarians. Nor vas it possible in the fifteen years of dolorimetry to heck anyone's threshold from the cradle to the grave. t seems that the most marked change occurs in adoles- ence. Certain diseases also may influence the sensi- ivity. For instance, in peptic ulcer cases the pain hreshold is high, as a rule, above 1500 grams, and in hronic polyarthritis deformans it is low, 1000 grams r below.

Disregarding variations caused by emotions, active pains, and drugs, *from the practitioner's point of view, the patient's sensibility is static.*



ig. 1.—Dolorimeter. I, the inductor, a etal rod in the center of the dolorime- r; C, the commutator, a rubber disk hich surrounds the inductor; S1, the crew which manipulates the inductor; 2, the screw which manipulates the ommutator; A, first indicator which egisters inducted pressure; B, second ndicator which registers the commuta- or's pressure; L.R., leg rest.

Absolute and Relative Values of Pain

Hippocrates stated, that if a patient has two pains, he would suffer only from the stronger of the two. Sensations do influence each other, and this is the principle of direct dolorimetry. Increasing pressure is exerted by the inductor on the patient's tibia until the artificial pain overcomes the patient's pain. The pressure applied to eliminate a pain is its measure, its bsolute value. During the test, the patient indicates when the instrument starts to hurt, when the inflicted ain equals his pain, and when his pain ceases. When he inductor is disengaged, his pain may (and most often does) recommence. This happens suddenly if his ain was due to an active physical factor (inflamma- ion, etc.)

Disregarding a few extreme cases, *aches and pains measure between* 500 *and* 3000 *grams inductor pressure.*

The relative value of a pain depends on its abso- lute value and on the sensitivity of the patient. For in- stance, a pleurisy pain of 2000 grams pressure is of great "hurt value" if the patient's threshold is 900 grams, while another patient, with a 2000 gram thresh- old, will just feel it. A third patient whose threshold is 2500 grams might complain of tightness in his chest, but not of pain.

Various types of pains react differently on dolori- metry. A pain of the imagination fades usually before the inductor starts to hurt. An intentionally falsely claimed pain, the pain which is not, does not respond to any strength of inducted pain. The claimant reite- rates that his pain hurts "just the same".

Illustrative Cases

The following cases should demonstrate some of the practical diagnostic possibilities of dolorimetry, there- fore, data unrelated were omitted.

Case I.—Mrs. G. S., aged fifty-one years, a seam- stress, had an abundance of complaints. Eight years ago she was operated upon (nephrolithotomy, uterectomy), and since then had suffered from headaches, spinal pain, left lower abdominal pains, and "terrible" heat waves. Her sleep was often interrupted by pains in her back, and she felt tired and sleepy all day. She had unmotivated crying spells. She formerly had her ureters rinsed, but lately the treatments were painful, and brought no relief. She passed small volumes of urine two or three times at night. Physical findings: weight, 240 pounds; blood pressure 130/80, systolic aortic murmur. The lungs, nervous system, and urine were negative, and there was no local tenderness on the spine. Dolorimetry: 700 gram inductor pressure caused pain, which ceased only on 900 gram commutator pressure, and returned as the counter pressure was lifted. She indicated pain, alleviation, and pain again on exactly the same pressures on both legs.

Persons whose pain threshold is as low as that of this patient, do feel pain from trifling causes. Besides, the inducted pain had to be overbalanced by the commutator to overcome it. This means, that she feels the pain after the cessation of the stimuli, that she has the "lingering" type of sensibility. She says she has a severe painful condition in her left abdomen, but her pain thresholds are equal bilaterally. Almost as a rule, the sensibility is sharper on the side of a serious painful sickness. Dolorimetry revealed that, notwithstanding her assertion of sufferings, she did not suffer from any serious painful sickness.

In such cases sedatives, and nothing else, are indi- cated. In this case, a daily dose of chloral hydrate and sodium bromide (0.5 grams of each) taken at bedtime proved satisfactory.

Case II.—Mr. A. J., forty-five years of age, visited his physician and complained of some gastric dis- tress. He felt no pain. His physician diagnosed chronic indigestion, and prescribed rhubarb and soda. An hour later the patient experienced a sudden, sharp, "tearing" abdominal pain, and collapsed. He was brought to the hospital still unconscious. Midline laparotomy was de- cided upon, and a perforated ulcer was promptly lo- cated. Five days after the gastroenterostomy he felt fine, and his pain threshold was found to be 2500 grams.

Patients with similar "late" sensibility are often unaware of their sickness or the seriousness thereof.

Case III.—Mr. S. M., fifty-six years of age, was admitted in a rather poor general condition. He com- plained of severe shooting pains in his left leg, and oc- casionally in both legs. His Achilles reflex and knee jerks could not be elicited. The rest of the physical ex- amination and the laboratory tests were negative. Dor- sal tabes was diagnosed. Tabetics indicate touch only on dolorimetry as the pressure and deep pain sensa- tions disappear in early tabes, even before any other objective symptom could be detected. However, this patient indicated pain at 1200 grams on his left and at 2000 grams on his right leg. The finding excluded tabes dorsalis, and indicated acute left sciatic disease as his pain producing ailment.

In acute sciatica, the homolateral threshold is markedly lower. The difference, though in a minor de- gree, is discoverable even after the painfulness of the sciatica has ceased. The spinal Wassermann proved to be negative in this case, and diabetes was diagnosed after a second urine test. He was starving before ad- mission.

Case IV.—Mr. M. S., forty-three years old was com- pletely paralyzed from a cervical injury. Two days

after laminectomy, his condition was unchanged, and the outcome doubtful. On dolorimetry, the patient did not experience any sensation. Next day he indicated slight pressure on 2700 grams. On the fourth day after the operation, he felt pressure at 2000 grams, and heavy pressure at 2700 grams. He indicated pain at 2700 grams on the fifth day, and though other changes in his condition were not noticeable, the gradual clearing of his deep-sensory conduction lines presaged recovery. Feeble motor activity became noticeable on the twelfth day. He fully recovered.

In a variety of sicknesses, dolorimetry enables one to discern with greater accuracy the tendency and the progress.

Case V.—Mr. L. B., thirty-seven years old, in the medical ward, suffered from the thalamic syndrome. His objective sensitivity was diminished on the left side of his body. He had hyperpathy, subjective oversensitivity. During the pain attacks, he displayed intolerable suffering. He received two or three morphine injections every day. His deep sensibility was first tested on the left leg. He did not feel pain nor pressure until 2400 grams was reached. Then suddenly he screamed, indicating intolerable pain ("explosive pain"). On his right leg a normal pain threshold was reached by 1800 gram inductor pressure. This pressure was then slowly increased to 2100 grams at which pressure his thalamic pain ceased. His thalamic pain returned promptly as the inductor was disengaged.

This positive reaction on dolorimetry proved that the patient suffered from pain, but that the "hurt value" of his pain was not great. The absolute value of his pain hardly exceeded that of his threshold pain. Nor was his pain of very high absolute value, such as an acute pulpitis pain, which measures 3000 g.

To alleviate the patient's pain, it was not necessary to resort to morphine. He craved it, and grossly exaggerated. For a counter test, his reaction after the hypodermic administration was observed. He became quieter in two minutes, and rested in exactly three minutes.

Case VI.—Miss A. G., aged twenty-five years, called late at the office. She was well dressed, and looked like health itself. She complained of a pain in her right great toe, which had started to ache two days ago. Now the pain was more severe. There was nothing visible, she said, when asked to remove shoes and stockings, but she obliged. Her feet were well built, and no abnormality could be detected. The dolorimeter was then placed on her left leg, and the inductor manipulated. She indicated light pain on 1200 grams. She was then asked how her toe felt. She said that it still ached. The inductor was then further pressed, and at 1800 grams she stated that her toe-ache had ceased, but the ache returned shortly after terminating the inducted pain. Her pain was proved.

Though not so frequently, external agents might cause deep pains. In this case, the modern shaped and still higher heeled new pair of shoes exerted the evil influence.

Summary

By using a standard instrument, the "dolorimeter", to administer pressure, and counterpressure on the shinbone, anybody's deep sensibility can be accurately measured. This test is of importance in diagnostics. It is simple, and takes only a few minutes.

The same instrument serves to measure almost every pain. A pain is measured by inducting pressure, pressure-pain on the tibia. If the created tension value exceeds the tension value of the patient's pain, the patient ceases to feel his pain.

The pressure values are expressed in grams. The absolute value of human aches and pains is between 500 and 3000 grams.

927 Rose Building

Aviation and Tropical Diseases

M. MARTYN KAFKA
New York, N. Y.

With the miraculous changes in speed of various types of aircraft, the rapid intercontinental transit, the practicing physician of our country must take cognizance of special diseases of a communicable nature which heretofore have not been encountered in certain parts of the United States. Tropical diseases may now become a problem to physicians who never dreamed that they would have to include these diseases in the process of making a correct diagnosis.

For instance, airplanes going to and from this continent to Africa or the regions in the South Pacific, may be carriers of parasites and insects that may give origin to public health problems never before encountered in the temperate zone except in rare conditions. Diseases which may be a matter of greater concern in the temperate zone, in the future are trypanosomiasis (African sleeping sickness), Asiatic cholera, Brazilian trypanosomiasis, brucellosis (Malta fever, undulant fever), pestis, plague, epidemic dysentery, filariasis, leishmaniasis, relapsing fever, schistosomiasis, yaws (frambesia) and ankylostomiasis, dengue (dandy or breakbone fever). Physicians in the United States may also expect to find greater occurrence of typhoid (enteric), yellow, typhus, and malarial fevers in the near future.

Formerly, cases of these diseases were rarely seen in this country, but with the inception of aviation transportation on a gigantic scale, practicing physicians all over the United States should not overlook the possibility of encountering tropical diseases in their patients, even though these patients have not left the country.

Incubation periods of these diseases vary and their transmission by carriers is not uncommon, for at the present time the United States Public Health Service is on the alert for such conditions. Special care is being taken to prevent epidemics and proper quarantine procedures are regularly enforced for planes coming into this country from foreign countries. Suspicious cases are held for observation and laboratory checkups. However, cases sometimes filter through even though the greatest vigilance is used.

Physicians should bear these facts in mind and any resistant disease which presents special problems should be carefully analyzed from this point of view. Recently an epidemic of keratoconjunctivitis (infection of the mucous membrane of the eye) swept through some industrial plants in this country, and no doubt had its origin somewhere in the tropical zone and was transmitted here. The epidemic started on the West Coast and swept eastward.

67 East Fifty-Ninth Street

Editorials

Medicine Today

At times it is well to sit back and attempt to survey what rôle medicine plays in the progress of man and what the medical man's relationship to society may be. At the present moment, while some statesmen and some warriors are attempting to make the world a better place—or at least a place fit for man to live in—and all of the energies of all of the people of this country are directed towards winning victory as quickly as possible, it may seem out of place to discuss a question of this nature.

It appears that the principal role of medicine today is to prevent or lessen the casualties in the field of battle, to lessen the mortality of the wounded, and with limited facilities and manpower to minister to the civilian population and keep them in the best possible health and at the highest level of efficiency. Much could be done in the latter field but the average practicing physician is too busy with the routine of daily practice which has increased to a degree of discomfort; and the question of the upkeep of morale is mainly left to others.

In the fighting zones, which are distributed in all parts of the world and in all climes, we may be safe in stating that an important task of the physician is to keep the armed forces in the best possible health, to prevent the spread of venereal disease (which we note is rampant in Sicily and Italy and highly prevalent in other places in Europe), to prevent malaria in the areas of occupation in the Far East, and to establish proper sanitation for the troops wherever they may be. The medical staffs in certain noncombatant areas do not have constant activity to the degree of those who may be in a zone of active hostilities. When a hospital unit is engaged in caring for the wounded in an active zone, they are highly overworked until the wounded can be transported to more quiet districts where proper care and nursing can be administered in a more leisurely fashion.

We fear that on the home front there is less opportunity for preventive medicine, because of the shortage of medical men and the increased pressure under which the average practitioner is forced to work. This, in a measure, may account for the vast increase in venereal disease that has been reported, although we are fully aware that there are other factors more deeply responsible.

These are some of the more glaring problems of our overworked medical profession today but we believe that these are even less important than those that will confront medicine when the war is ended and readjustments have to be made. We have no way of knowing what the postwar world will be like, but it is certain to be different from the prewar world and we will face many major adjustments. In the field of medical progress many important advances have recently been made. An outstanding example is the development of penicillin which we believe to be the most important single discovery in the history of medicine, for the reason that this is a substance which attacks more types of infections than any substance known without any toxicity.

The world is in a state of battle and flux and we trust that the progress of the warriors and statesmen in making this a more comfortable world for man will match the progress of medicine.

Malaria As a Military and Civilian Problem

Two important articles on malaria have just appeared almost simultaneously. The first was written by Stanley B. Freeborn, Senior Surgeon (R.) United States Public Health Service, in *Public Health Reports*, March 17, 1944, who says that malaria is rated as the No. 1 disease by both the Army and the Navy, and that seventy-five percent of affected troops have the "foreign type" of the disease, although they have not seen foreign service.

Important world centers are the southwest Pacific, southeast Asia, India, and the eastern Mediterranean. Protection against bites through destruction of larvæ, screening of dwellings and tents, spraying with "flit guns" and the administration of atabrine, all are effective but not completely so. Atabrine is abundant and "suppressive," but tertian malaria "breaks through" its barriers, since relapses may occur months or years after the initial attack. Neither drug nor vaccine nor any other agent is all-effective; the only time-tested recourse is the reduction of anopheles carriers. It would be ideal to quarantine "suspects" for six to nine months. This is obviously impossible, but to liberate them without plans or facilities to protect communities, spells defeatism.

And so Dr. L. L. Williams, Jr., of the United States Public Health Service, proposes to "eradicate malaria from the United States". He thinks this can be done by working on "endemic areas".

Malaria is a disease of warm climates. The optimum for the plasmodium is 71° F. for quartan; 77° F. for tertian; and 86° F. for subtertian. A suspect might become nonmalarious by changing to a cold climate! Anophelines are also susceptible to low relative humidities. At present antianopheline measures are being effected in twenty states, in the District of Columbia, and in Puerto Rico. But the most dangerous "carriers" are men home on furlough. The release from atabrine treatment, change of climate and daily routine, over-

indulgence in civilization which includes mother's cooking, may bring about a relapse. Such a focus might well start an endemic where *our* breed of anopheles enjoys relative freedom from plasmodiæ.

In Air Force Magazine, April 1944, Major General D.N.W. Grant, U.S.A.A.F., writes of a battle plan to fight malaria. He says that every individual in the forces must know how to cooperate to prevent malaria, and especially must he know how to cope with "the night fighter bomber", the lurking, insidious anopheles female. In the tropics, natives are virtually all infected and are not under control. Therefore, they are a potent source of plasmodium malariæ. The female anopheles lays hundreds of eggs every few days; and so "reinforcements" are inexhaustible.

The Air Forces have a plan for limiting malarial infestation: 1, large-scale control by sanitary units; 2, individual efforts of every man (and woman) to destroy mosquitoes and their larvæ. Screens, mosquito nets, spraying with insecticides, especially of planes and beds in camps are essential. The use of socalled "GI repellent" to cover the exposed skin of the body, helps. Atabrine is a suppressive but not a preventive, but it can be used with impunity and does not "ground" a flyer. Yellowing of the skin occurs but passes off quickly when the drug is discontinued.

Major General Grant says that only one favorable thing can be said for malaria: "It lays low Japs and Nazis as well as our own". But this is small recompense for an illness which some medical authorities regard as well-nigh incurable.

Synthetic Quinine

Only God can make a tree and until a very short time ago only a tree, a cinchona tree, could make quinine. News comes that two extremely young organic chemists, born but a few months apart, in 1917, Robert B. Woodward, Boston, and William E. Doering, Fort Worth, Texas, working for the Polaroid Corporation, were able to synthesize the much needed quinine. Quinine is the first specific known to medicine and attempts to synthesize the material have been made for many decades. About three hundred years ago we find the first mention of quinine in the European medical literature by Herman van der Heyden and for several hundred years this extract from cinchona bark was the only effective antimalarial drug.

At any time the synthesis of quinine would be epoch making but today its importance is infinitely greater as the main world source of supply is in the hands of the Japanese. Chemists in various parts of the world have sought to synthesize quinine for almost one hundred years, old chemists, famous chemists. And today we can probably announce that two youngsters have achieved this amazing success. This crowning achievement reveals that these two scientists, each of them under thirty, have had remarkable careers in the chemical world.

Woodward received his Ph.D. degree at the age of twenty, after only four years of college work, and Doering received his Ph.D. at the age of twenty-six. All honor to these brilliant young men and their remarkable and startling achievement.

Sciatica

Llewellyn Jones Llewellyn, in *Aspects of Rheumatism and Gout,* which was published in 1927, pointed out that the diagnosis of "simple sciatica" which was generally given in cases of pain in or about the sciatic nerve was, even when he wrote, completely out of date. It has been said that sciatica is not a disease but merely a symptom. Every case of sciatica has a cause, and diagnosis is incomplete until that cause has been unearthed. The vast majority of cases of sciatica are secondary; they are symptomatic of the existence of disease elsewhere.

At a meeting of the British Medical Association, Dr. Wilfred Harris, London, said that although sciatica was only a symptom, it was the physician's business to find out why the patient complained of pain in the distribution of the great sciatic nerve. Radiographic examination, lumbar puncture, and occasionally the intraspinal injection of lipiodol were essential parts of the examination. He emphasized that the difficult cases were those where the trouble was at a lower level in or around the nerve trunk itself. The more obvious causes of true neuritis, such as lead poisoning and diabetes, were not difficult to find or exclude, but there were many cases in which cold, trauma, prolonged pressure or focal sepsis seemed to play a part, and at least a number in which no definite cause could be found.

Dr. Joseph S. Barr, of Boston, restricted his remarks to hernia of the nucleus pulposus as a cause of sciatica. This condition, he said, accounted for only a small proportion of cases, but was of interest as a clear cut addition to our knowledge of the etiology of sciatic pain. He stated that pressure from the posterior protrusion of the disc or nucleus only recently had been recognized as a cause of sciatica with few or no neurological signs.

In the diagnosis of sciatica there are so many possible causes that it is difficult to discover in many instances the primary cause, and successful treatment, which, after all, is the main object, is equally difficult to achieve. When the sciatica was acute, Dr. Harris recommended rest in bed and the application of local anodyne liniments and sometimes the use of infrared rays. Analgesic drugs must be given to relieve pain. Massage must never be employed in the acute stage but later, in the more chronic stage, it might help.

News Items

Joint Meeting of Roentgenologists.—A joint meeting of the Radiological Society of North America and the American Roentgen Ray Society will be held in Chicago, September 24th to 29th.

American Medical Association Establishes Office of Information.—The Council on Medical Services and Public Relations of the American Medical Association opened an Office of Information in Washington, D. C., on April 3d. Dr. Joseph S. Lawrence, of Albany, N. Y., is in charge.

Morale and Propaganda.—Dr. Edward A. Strecker, president of the American Psychiatric Association, delivered the George B. Siedenburg Memorial Lecture at the New York Academy of Medicine on Thursday evening, April 27th, his subject being "Morale and Propaganda". This is one of the ninth series of Lectures to the Laity being given at the Academy.

New England Society of Physical Medicine.—At a meeting of this society held in Boston on May 3d, Dr. Arthur L. Watkins, director of physical therapy, Massachusetts General Hospital, read a paper on the "Rôle of Physical Medicine in the Diagnosis and Treatment of Nerve Injuries", which was illustrated with lantern slides. The discussion was opened by Dr. Jost J. Michelson, assistant nerve surgeon, Massachusetts General Hospital. Dr. Arthur L. Watkins presided.

Relocations of Physicians.—According to an announcement made by Dr. Frank H. Lahey, chairman of the directing board of the War Manpower Commission's Procurement and Assignment Service, relocations of 2,955 physicians to new localities of practice were effected from January 1942 to February 29, 1944. While exact figures as to the number of relocations made in March are not yet available, Dr. Lahey estimated that the total in that month was about 250.

Progressive Deafness.—At a meeting of the Section of Otolaryngology of the New York Academy of Medicine, held Wednesday evening, April 19th, a symposium on progressive deafness was presented. Dr. Edmund Prince Fowler discussed prevention and alleviation; Dr. Samuel J. Kopetzky described the present status of medical and surgical therapy, and the subject of rehabilitation was treated by Dr. Westley M. Hunt. The subject was discussed by Dr. John D. Kernan, Dr. Samuel Zwerling, and Miss Estelle Samuelson, executive secretary of the New York League for the Hard of Hearing.

Convalescence and Rehabilitation.—A conference on convalescence and rehabilitation was held at the New York Academy of Medicine, April 25th and 26th, under the auspices of the Committee on Public Health Relations of the Academy with the support of the Josiah Macy, Jr. Foundation. Dr. William S. Tillett opened the conference with a discussion of the medical problems of convalescence. Ranking officers of the Navy, Army, Public Health Service, the Army Air Corps, and the U. S. Veterans Administration presented their programs in the work of rehabilitation. Other subjects discussed were nutrition, community resources, motivation, and retraining. An interesting feature of the conference was the recounting of the experience of workers in this field in foreign countries.

City Hospital Affiliated with New York Medical College.—Dr. Edward M. Bernecker, Commissioner of Hospitals of the City of New York, and Dr. J. A. W. Hetrick, dean of the New York Medical College, recently announced that a teaching affiliation had been established by the City Hospital and the New York Medical College. By this arrangement the clinical facilities of the hospital will be available to students at the college.

Medical Officers Receive American Design Awards.—On Thursday, April 20th, the eighth Annual American Design Awards were presented by Lord and Taylor to medical officers of the armed forces for their contributions to the Army and Navy programs for the rehabilitation of the wounded. The recipients of the four awards of $1,000 each are Lieutenant Colonel Howard A. Rusk, Lieutenant Colonel James Barrett Brown, Captain Henry H. Kessler, Lieutenant Colonel Roy R. Grinker, and Major John P. Spiegel.

Appointments at Columbia University.—Five new appointments to the medical faculty of the College of Physicians and Surgeons, Columbia University, have been announced: These are: Dr. Samuel Gelfan, assistant professor of physiology; Dr. Wendell Hughes, associate clinical professor of ophthalmology; Dr. Willis J. Knighton, associate clinical professor of ophthalmology; Dr. Edgar M. Medlar, associate professor of pathology, and Dr. Maxwell D. Ryan, associate clinical professor of otolaryngology.

Historical Medicine.—At a joint meeting of the Section of Historical and Cultural Medicine of the New York Academy of Medicine and the New York Society for Medical History held on Thursday evening, May 4th, Dr. Jean A. Curran, president and dean of Long Island College of Medicine, read a paper on "The History and Development of Medical Internships". Dr. Leland E. Hinsie opened the discussion. At the executive session Dr. Victor Robinson was elected chairman of the section, Dr. Leona Baumgartner, secretary, and Dr. Edward F. Hartung, member of the advisory committee.

Clinical Society of Reconstruction Hospital.—At a meeting held on Wednesday evening, April 19th, the program was devoted to a presentation of cases illustrating injuries about the shoulder, including fracture-dislocation of the shoulder and head of the humerus, frozen shoulder following bursitis and neuritis, and fracture of the head and greater tuberosity of the humerus. These cases were presented by Dr. George A. Glass, Dr. B. Bernard Kaye, Dr. Henry H. Ritter, and Dr. David Goldblatt.

Henry W. Berg Research Laboratory.—Dr. Albert Ashton Berg, president-elect of the International College of Surgeons and consulting surgeon at Mt. Sinai Hospital, New York, has given to the hospital a sum of money for the construction of a modern research laboratory in memory of his brother, Dr. Henry W. Berg, who died in 1938. The work on this building, which will be located among the institution's present group between Fifth and Madison Avenues and 101st and Ninety-Eighth Streets, will begin as soon as labor and material become available. This laboratory will be known as the Henry W. Berg Research Laboratory and will provide accommodations for research in bacteriology, pathology, physiology, chemistry, gastroenterology, cardiology and other subjects.

New Cases of Venereal Disease.—A War Letter issued by the Division of Venereal Diseases, U.S. Public Health Service in cooperation with State Health Departments, states that new cases of syphilis in the United States reported by State health officers totalled 195,423 for the first five months in the fiscal year 1943-1944, as compared with 234,024 reported for a corresponding period in the previous year. New cases of gonorrhea increased from 112,572 to 125,383 for the same period.

Stated Meeting of the Academy of Medicine.—At a stated meeting of the New York Academy of Medicine held on Thursday evening, May 4th, the scientific program, arranged in cooperation with the Section of Medicine, was devoted to a consideration of urgent problems in tropical medicine in civilian practice. Major General Shelley U. Marietta, Medical Corps, U. S. A., read a paper on the treatment of malaria, and Dr. Albert V. Hardy of the National Institute of Health, U. S. Public Health Service, read a paper on the diagnosis and treatment of acute diarrheal diseases. At the executive session Dr. William S. Tillett was elected chairman of the section, Dr. Franklin M. Hanger, secretary, and Dr. Horace S. Baldwin, a member of the advisory committee.

Physicians Needed for Los Angeles Hospital.—Resident physicians in the specialties of neuromedicine, ophthalmology, pathology, and pediatrics are being sought by the Los Angeles County Civil Service Commission for positions in the County General Hospital. Applications for these positions must be filed on or before Saturday, May 27, 1944, and will be accepted from persons twenty-one to fifty-five years of age who have an M.D. degree from an approved medical school and who have completed nine months' internship in an approved hospital. Applications will be accepted from interns who would like to be considered for these positions prior to completion of their internship.

There will be no written examination. Full information and applications may be obtained by writing the office of the Commission, 102 Hall of Records, Los Angeles 12, California.

Physical Medicine in the Care of War Casualties.—At a meeting of the Eastern Section of the American Congress of Physical Therapy, held Saturday, April 8th, at the National Naval Medical Center, Bethesda, Md., and the Walter Reed General Hospital, Washington, D. C., a symposium was presented on "The Contribution of Physical Medicine to the Care of our War Casualties". Reports of the work being done at various centers were presented by Lieutenant Commander Harry S. Etter, Medical Corps, U.S.N., Lieutenant Lee A. Koontz, Medical Corps, Dr. Arthur Michele, Surgeon (Reserve) U. S. Public Health Service, and Dr. Addison M. Duval, St. Elizabeth's Hospital, Washington, D. C. Papers were read by Major Donald Lee Rose, Medical Corps, Dr. Charles M. Griffith, Major George K. Carpenter, Medical Corps, Lieutenant Colonel Howard A. Ruck, Medical Corps, and Dr. George Miley, of Philadelphia. An interesting discussion followed. At the evening session addresses were delivered by Dr. K. G. Hansson, president of the American Congress of Physical Therapy, Sir Gerald Campbell, British Minister at Washington, and Frederic Elton, of the Bureau of Vocational Rehabilitation, New York State Department of Education.

Personal.—Dr. Victor G. Heiser delivered an address on the "Value of Industrial Medical Services in Industry" at the Indiana State Medical Association's Conference on Industrial Health, held April 19th to 20th.

Dr. Winford Smith, director of Johns Hopkins Hospital, Baltimore, for thirty years, has been named American member and chairman of the Medical Supplies Committee of the Combined Production and Resources Board, which is responsible for the medical supplies production program for all the United Nations.

Dr. Thomas Parran has been appointed Surgeon General of the U. S. Public Health Service for another term of four years.

Dr. A. L. Wolbarst announces the removal of his offices to 667 Madison Avenue, at Sixty-First Street, New York 21, N.Y.

Dr. Harold S. Diehl, dean of the medical sciences, University of Minnesota Medical School, Minneapolis, will deliver the Gehrmann Lectures for 1943-1944 at the University of Illinois College of Medicine, May 17th-19th.

Research in Psychosomatic Medicine.—The establishment of a fund for research in psychosomatic medicine has been announced by the National Committee for Mental Hygiene. Dr. Edward Weiss, professor of clinical medicine at the Temple University School of Medicine, Philadelphia, has been named director of the fund which will be administered by Dr. George S. Stevenson, medical director of the National Committee. A committee of medical authorities has been formed to consider research projects. Among the members of this committee are Dr. Charles M. Aldrich, of the Mayo Clinic, Rochester, Minn.; Dr. Franz Alexander, director of the Institute of Psychoanalysis, Chicago; Dr. Stanley Cobb, professor of pathology at Harvard Medical College; Dr. William C. Menninger, head of the psychiatric division of the Army, and Dr. John Romano, professor of psychiatry, University of Cincinnati Medical School.

Baruch Donations to Physical Therapy.—Mr. Bernard M. Baruch has given $1,100,000 to be used over a period of ten years for the teaching and study of physical therapy. An administrative board, under the chairmanship of Dr. Ray Lyman Wilbur with Dr. Frank H. Krusen as director, has been established to inaugurate the program. The following institutions are participating: Columbia University College of Physicians and Surgeons, $400,000, for the establishment of a key center of research and teaching of physical medicine, with particular reference to its application for returning veterans; New York University College of Medicine, $250,000, to be used in establishing a center for teaching and special research in preventive and manipulative structural mechanics of physical medicine; the Medical College of Virginia, $250,000, to establish a center for teaching and research with particular reference to hydrology, climatology and spa therapy; selected medical schools not yet designated, $100,000, to develop an immediate program for the physical rehabilitation of war casualties and those injured in industry; for the establishment of fellowships or residencies, $100,000, to be used for the benefit of qualified physicians or other scientists who are selected to be trained in this field. Full details of the program will be published in a later issue.

Book Reviews

Clinical Pathology

'linical Diagnosis by Laboratory Examinations. By JOHN A. KOLMER, M.S., M.D., DR. P.H., SC.D., LL.D., L.H.D., F.A.C.P., professor of medicine in the Schools of Medicine and Dentistry of Temple University. Illustrated. New York and London: D. Appleton-Century Company, Inc., 1943. Pp. 1239. Price $8.00.

The "text" of this volume is: "No clinical or laboratory examination can be better than the thoroughness nd skill with which it is conducted." It is eminently rue that laboratory tests of all kinds have been enorously increased in number and expanded in volume uring the past thirty years. Gone are the days when he "mutt on the staff" worked intensely long hours to o urines and blood counts and stomach analyses, and hen was expected to "fill in" if an extra hand were eeded in the O.R. or on the wards. In fact, the exansion has been so great that graduate as well as unlergraduate students of medicine must have help in nterpreting laboratory findings. Dr. Kolmer truly says hat all of us outside "the Lab" are more interested in he clinical application or interpretation of "findings" han in technic, and he attempts to accede to this demand. Steeped as he is, however, in laboratory lore, he s unable to do so. Hence the book is not a medical ovel to be read without looking at the clock. It is inensive, comprehensive and scholarly, and it demands oncentration. All diseases common to northern climate re discussed from the laboratory angle, and there are nany drawings, tables and summaries which elucidate he textual substance. The section dealing with blood lyscrasias is detailed and exhaustive as becomes this mportant subject. Sedimentation is considered *in extenso,* and there is a complete table which sets forth the linical interpretation of bone marrow examinations which is, of course, basic in studying blood cells, both ormal and abnormal.

Vitamins are completely analyzed as to their origin nd uses in the body. Conditions due to a lack of them re described. Table 172 summarizes all the informaion concerning vitamins which one needs to know in arrying on the daily practice of medicine.

No book dealing with clinical pathology could possibly be more complete than this one. For reference. herefore, it is invaluable. However, a briefer outline somewhat after the style of the old "Quiz Compends" would be welcome.

The Hand

The Hand. Its Disabilities and Diseases. By CONDICT W. CUTLER, JR., M.D., F.A.C.S., associate surgeon, Roosevelt Hospital, New York. With 274 illustrations. Philadelphia and London: W. B. Saunders Company, 1942. Pp. 572. Price $7.50.

This book has been prepared not so much for the surgeon as for the general practitioner, the military officer, the industrial specialist, and the O.P.D. physician who is likely to see these "emergencies" first. The author rightfully states that "the hand is every doctor's concern". We are accustomed to think chiefly of injuries to this member followed by pyogenic infections. This comprises, no doubt, the largest group, but there are congenital abnormalities, tumors, benign and malign, and certain systemic diseases, cerebral hemorrhage and diseases of the central nervous system which alter both the anatomy and physiology of the hand.

Mangling injuries to the hand are found most often in factory workers who become careless when working at or near machines. Here inadequate or bad management may be responsible for amputation, or permanent disability which is almost as bad as total loss. Infections of open wounds are quite well taken care of now by the use of the sulfa drugs. Stab wounds, by needles and other sharp instruments, are more to be feared because the destructive micro-organisms are at work secretly and it may require a bold surgeon who asks permission to "lay it wide open". However, even this "radical" measure may fail to save the hand. Burns occur very frequently in flyers, and are managed with much greater skill now than at any other period of surgical history. Healing takes place, nevertheless with much scarring and deformity, and such instances demand skin grafting and subsequent plastic surgery. Many operations may be necessary, and a good end result may require a year or more.

All of these matters are set down in this excellent book and discussed freely and fully. This point will bear repetition: the physician who *first* sees a seriously injured or burned hand is faced immediately with a great responsibility. If he feels that his experience is inadequate, he must seek help at once. In any case he will need the kind of knowledge which this book supplies so well.

Dynamic State of Body Constituents

The Dynamic State of Body Constituents. By RUDOLF SCHOENHEIMER, M.D., late associate professor of biological chemistry, Columbia University. Cambridge, Mass.: Harvard University Press, 1942. Pp. 82. Price $1.75.

Schoenheimer developed the idea of employing a table isotope as a label in organic compounds, destined for experiments in intermediary metabolism, which should be biochemically indistinguishable from their natural analogues. Justification for this scheme was found in the established fact that the hydrogen in organic matter displays the same isotope abundance as that in common water. Exploratory experiments soon showed that the feeding of 4, 5-deuteriocoprostanone led to the presence of deuteriocoprosterol in the feces and the ingestion of fat containing combined deuteriostearic acid was, surprisingly, followed by the rapid deposition of a large proportion of it in the body fats.

A similar effect was then observed to occur in animals the body fluids of which were enriched with heavy water; deuterio fatty acids appeared in the depot fats and reached a maximum in a strikingly short time. Conversely, with ordinary water in the body fluids, the isotopic label in the depot fats disappeared equally rapidly. This rapid interchange between components of the diet and of the tissues proved on further investigation to involve not only direct replacement of chemically identical fatty acids but rapid transformations, notably desaturation, saturation, degradation, elongation and reduction to alcohols. The only natural fatty acids which appeared not to be synthesized by the rat were the highly unsaturated acids known to be essential for health.

As soon as the stable isotope of nitrogen, N_{15}, be-

came available, Schoenheimer and his colleagues applied it to an analogous study of protein metabolism. Amino acids synthesized from isotopic ammonia and added in small quantities to the diet of adult rats in nitrogen equilibrium were found to be rapidly and extensively incorporated in the tissue proteins. Like the fatty acids, they also gave evidence of chemical transformation; after the ingestion of isotopic amino acids isolated from the proteins, except lysine. Advantage was also taken of the possibility of labeling compounds with both isotopes, the ratio of which in the products isolated from tissue proteins indicated the extent to which the carbon chain of an amino acid had followed a different metabolic pathway from that of the nitrogen atom.

As a result of Schoenheimer's investigations, of which but a few examples have here been outlined, there emerged a concept of metabolic "regeneration", wherein the central idea is the continual release and uptake chemical substances by tissues to and from a circulating metabolic "pool". Coincident with these cyclic processes there occur among the components of pool multitudinous chemical reactions, of which only relatively few are concerned with elimination of waste products.

The Medical Student

Doctor in the Making. The Art of Being a Medical Student. By Arthur W. Ham, M.B., associate professor of anatomy, and M. D. Salter, M.A., Ph.D., lecturer and research fellow in the department of psychology, Faculty of Medicine, University of Toronto. Illustrations by Jean McConnell. Philadelphia, London, and Montreal: J. B. Lippincott Company, 1943. Pp. 179. Price $2.00.

In the University of Toronto there is a "counselling committee", the business of which is to aid the medical student in orienting himself to the best possible advantage. Both Dr. Arthur Ham and Dr. Mary Salter served on this committee, and out of rich experience they have written an excellent guide for the medical tyro. The authors truthfully say that teaching medical students to become competent physicians is presumably the goal of medical schools, but hitherto, little or no attention has been paid to "method". The student has been told to buy books, study them, attend lectures and "lab.", undertake to "pass" examinations, and, hopefully, to receive a degree. It is presumed that in the premedical college, a student has become "skilled in learning", that is, he has acquired the technique of study. Not so, unless he has the kind of mind that can mould a satisfactory method of its own. This calls for a kind of philosophical self-introspection which is given to few indeed. Every instructor knows how few in his classes have anything approaching such intelligence.

This little volume is in three parts: Part I deals with motivation and equipment; Part II describes enemies to success and how to defeat them, and Part III reminds the beginner of his responsibilities as a medical student. Of especial value are the three chapters, A Fifth Column in Your Mind, The Time-swindler, and Memory Versus Understanding.

Having developed methods of study after much laborious mental effort during his student days, this reviewer would have used *Doctor in the Making* as his daily Bible had it been available so many years ago. It should be required reading for every premedical student during his last year in an "arts course", and no graduate physician who has the interest of a medical student at heart can do better than hand him this book as a gift that is sure to be highly prized.

Neuroanatomy

Human Neuroanatomy. By Oliver S. Strong, formerly professor of neurology and neurohistology, College of Physicians and Surgeons, Columbia University, and Adolph Elwyn, associate professor of neuroanatomy. A William Wood Book. Baltimore, Md.: The Williams and Wilkins Company, 1943. Pp. 417. Price $6.00.

This textbook commends itself through its straightforward simplicity. The title is somewhat inadequate as the text is not limited to the presentation of the neuroanatomical structure of the nervous system but includes a graphic picture, from embryology to function, as well as a presentation of the neurogenic apparatus as an integrated whole. While the subject is attacked primarily from the anatomical point of view from the neuron to the more complex structure of the cerebellum, it shows how these structures are interrelated and coordinated into one great functioning system; and while there is no lack of clarity on the segmental approach, one never loses sight of the coordinated functioning organism. The authors, while they have had years of experience in teaching have had no hesitancy in utilizing the work of other scientists and incorporated it into the text in order to present the entire picture in an excellent fashion.

One of the pleasing things about the book is the straightforward manner in which the subject is presented without needless redundant descriptions. While the authors state that they have used a three-dimensional approach, we feel that it is even more comprehensive than this. One cannot go wrong in utilizing this as a dependable textbook.

Plastic Reconstruction of Eyelids

Reconstructive Surgery of the Eyelids. By Wendell L. Hughes, M.D., F.A.C.S. Illustrated. St. Louis: The C. V. Mosby Company, 1943. Pp. 159. Price $4.00.

Dr. Hughes has dedicated his thin little volume to Dr. John Martin Wheeler. This is an altogether fitting and proper recognition of a master by his skilled pupil. Wheeler did most of his work in the New York Eye and Ear Infirmary; Dr. Hughes does not state where he found his great opportunity to carry on, but he has done so with very great success. His book is a published thesis for admission to the American Ophthalmological Society and represents his evolvement of methods for reconstructing new eyelids. It provides a comprehensive review of all literature on this subject. There are 413 references to the work of others.

Efforts at plastic reconstruction of eyelids seem to have begun with Celsus in 1646, but it was not until 1846 that von Walther did the first recorded tarsorrhaphy for partial ectropion. Dieffenbach, who is known as the "father of plastic surgery", devised several operations on the lids and worked them out on animals. However, it has required about one hundred years to bring the high degree of success which now maintains in skilled hands. Dr. Hughes has compressed an enormous amount of information into small compass. The book is exceedingly graphic, and careful study of the drawings and figures will give anyone a

good idea of what has been accomplished. There is just enough "text" to elucidate the illustrations. It is amazing to learn how a lid which has been completely lost through accident (explosions, molten metal burns, etc.) can be replaced by skin borrowed from an arm, mucous membrane from within the mouth, cartilage from an ear, and lashes from an eyebrow. With the exception of corneal restoration through grafts, this is probably the most delicate and difficult 'plastic surgery" there is. Often it is antecedent and imperative before any attempt can be made to restore vision. It has, therefore, a basic importance far beyond the matter of "looks" or cosmetic effect.

Dr. Hughes is to be commended for the excellent quality of his book. The prediction can be safely made that it will be a standard which all others must follow for many years to come.

Chemical Formulary

The Chemical Formulary. A collection of valuable, timely, practical, commercial formulæ and recipes for making thousands of products in many fields of industry. Volume VI. Editor-in-chief, H. Bennett. Brooklyn, N. Y.: The Chemical Publishing Co., Inc., 1943. Pp. 636. Price $6 00

This a very useful book, for it can be utilized by anyone who wishes to start a candy kitchen a brewery, or a large and successful pharmaceutical enterprise, but the subjects in the book cover a much wider field. It includes pyrotechnics and explosives which should be valuable to the War Department especially in times of hostilities, how to remove stains of any kind from any material. It gives many valuable hints on farm and garden specialties which should be of value to tillers of victory gardens, formulæ for textiles and fibers which could be utilized in our present rayon shortage, and, oh, hundreds of other things; but seriously it is a practical book containing many interesting formulæ, most of which have been carefully selected and, no doubt, have proved of real value to many persons.

The material that is in the volume has been carefully compiled, and the author has no hesitancy in admitting that he was obliged to search widely and delve deeply and consult a great many chemists in industry and science for his information. We find it a useful reference handbook.

Minor Surgery

Minor Surgery. By Frederick Christopher, S.B., M.D., F.A.C.S., associate professor of surgery at Northwestern University Medical School, Chicago. Fifth edition, reset, with 575 illustrations. Philadelphia and London: W. B. Saunders Company, 1944. Pp. 1006. Price $10.00.

The first edition of this excellent book came out in 1929; other editions followed in 1932, 1936 and 1940. And so every three or four years it has been necessary to bring the subject matter up to date. Dr. Christopher aptly remarks that the difference between major and minor surgery is not always a definite line. Failure to recognize the importance of the "minor" type may lead to inadequate or improper care with serious results; for example, tonsillectomy is a minor operation, but now and then the tissues slough, involve the carotid and call for "major" surgery to save a life.

Twenty-seven years of O.P.D. and hospital work have afforded a basis for the recital of experiences and the conclusions therefrom. In addition, thousands of articles in surgical journals have been studied and the most valuable data have been extracted from them resulting in an enormous bibliography with direct quotations where these seemed to be necessary. The subjects of wound treatment and wound healing have been rewritten in the light of sufonamide experience. Penicillin also comes in for consideration, and the "newer" plaster cast care of wounds is described. Burns are detailed with reference to nonadherent pressure dressings and the use of plasma. There is a discussion of "shock" and its treatment with blood plasma and other agents. Considered for the first time in any of these editions are tetanus toxoid, treatment of varicose veins, ligation of the femoral vein in thrombophlebitis, management of pilonidal sinuses, wire sutures in tenorrhapy, x ray treatment of sprained ankles, "paratrooper fractures", sternal infusions, treatment of cardiac arrest, and intravenous anesthesia. The subjects are so many and varied that one can scarcely catalogue them in a review of this length. This is the surgery of the general practitioner who may be working in some remote spot and trying to be all things to all men without having at hand skilled assistants and everything desired in equipment. To such, Christopher comes as a friend whose guiding hand helps one over the difficult spots.

Use of the Microscope

The Microscope and Its Use. By Frank J. Muñoz, technical microscope consultant, in collaboration with Dr. Harry A. Charipper, professor of biology, New York University. Brooklyn, N. Y.: Chemical Publishing Co., Inc., 1943. Pp. 334. Price $2.50.

Strangely enough, this book on the microscope, written in nontechnical language, first appeared in Spanish. The book does not aspire to be a highly scientific tome for there are many of these available, nor is it as brief and concise as an ordinary handbook gotten out by some manufacturer of microscopes. It is written so that the student in biology or medicine or metallurgy can easily learn the elemental procedures necessary for the correct use of the microscope. One of the most important chapters for the novice is that on common errors in the use of the microscope. This book is written from a practical point of view and can be well utilized by those working with any of the various microscopes available.

The Mystery of Rays

These Mysterious Rays. A Nontechnical Discussion of the Uses of X Rays and Radium, Chiefly in Medicine. By Alan L. Hart, M.D., M.Sc. (Med.). New York and London: Harper and Brothers, 1943. Pp. 218. Price $2.75.

Dr. Alan Hart has written a useful book for the layman on the various rays: X ray and radium and their uses in the various parts of the human organism, a short chapter on cancer, and quite a bit about ultraviolet light and sunshine. We think that the ordinary physician's patient looks upon the use of various rays with awe. Rays have been, and in many ways still are, quite mysterious. The scientists have found out much about them and utilize them in countless ways but there is still much to learn. Many patients will feel better when they are able to have a glimpse into the mysterious world of the use and mechanism of the x ray and ultraviolet light, the most commonly used rays. We feel that many physicians will find this book useful if some of their patients exhibit a marked curiosity or any anxiety about these physical modalities either for treatment or for diagnosis.

MEDICAL RECORD

A National Review of Medicine and Surgery, Established 1843

FORMERLY KNOWN AS THE MEDICAL JOURNAL AND RECORD

PUBLISHED MONTHLY BY
THE MEDICAL JOURNAL AND RECORD PUB. CO., INC.

Office of Publication: 210 Orchard Street, East Rutherford, N. J.
Editorial and Executive Offices: 215 Fourth Avenue, New York 3, N. Y.

GREGORY STRAGNELL, M.D. - - - - - *Editor*
A. M. MARLATT - - - - - *Assistant Editor*
N. F. HANF - - - - - - *Business Manager*
C. A. MCHALE - - - *Advertising Manager*

Subscription Price: Under Domestic Postage, $4 Yearly; Under Foreign Postage, $4.75 Yearly; Single Copies, 40 cents.

Remittance should be made by New York Exchange, post office, or express money order, payable to The Medical Journal and Record Publishing Company, Inc., or by registered mail, as the publishers are not responsible for money sent by unregistered mail. Remittances from Foreign Countries should be made with International Money Orders.

MANUSCRIPTS

All material for publication should be sent to THE EDITOR of the MEDICAL RECORD, 215 Fourth Avenue, New York 3, N. Y.

Exclusive publication: Original articles are accepted with the understanding that they are contributed only to the MEDICAL RECORD.

Preparation: Material must be typewritten and double spaced. Carbon copies or single spaced manuscripts will not be considered.

Changes other than the correction of errors will not be permitted after the article has been set in type, so be sure and write your paper the way you want it printed.

Illustrations: Photographs should be numbered and bear on the back author's name and title of article; top of the picture should be indicated. Glossy prints produce the best half-tones. Drawings and charts for reproduction should be made in black ink.

Bibliographies should follow the style of the Quarterly Cumulative Index Medicus of the American Medical Association, and should give name of author, title of article, name of periodical, with volume, page, month, day of month if weekly, and year.

Manuscripts should carry addresses of authors and should not be rolled.

Reprints are furnished. Prices can be secured after article is in type.

All material published in the MEDICAL RECORD is copyrighted and should not be reproduced without our permission.

MAY 1944

Medicolegal Notes

Hospital Nurse's Compensation Claim Sustained

In a claim proceeding by a hospital nurse against the hospital which employed her, its private insurer and the State Insurance Fund under the New York Workmen's Compensation Act, the hospital and the private insurer appealed from an award by the State Industrial Board in favor of the claimant.

The claimant was employed as a nurse by the hospital from September 14, 1936, to January 6, 1941. During 1938 and 1939 she was assigned by her employer, in the course of her employment, to other hospitals for short periods of time. During July, August and September 1939, she was assigned to the Homer Folk Hospital. The Industrial Board found that while in this hospital she was exposed to and came in contact with tuberculous patients and that as a result she contracted tuberculosis, becoming disabled from that disease on January 6, 1941. The evidence showed that after October 1939, and up to the time of her actual disablement, she was in contact with tuberculous patients in her regular work as a nurse. From December 1, 1938, to November 4, 1939, the hospital employing the nurse and assigning her to other hospitals was insured by the State Insurance Fund. From November 14, 1939, to January 9, 1941, inclusive, the hospital was insured by its private insurer. The New York Appellate Division, Third Department, held that the evidence sustained the award, which was affirmed, with costs to the State Industrial Board and disbursements to the State Insurance Fund. McDonough v. Flushing Hospital and Dispensary, 43 N. Y. S. 2d 889. A similar case was at the same time decided by the same court in the same way, Sukofsky v. Hospital, 43 N.Y.S. 2d. 890.

Workmen's Compensation Medical Claims

The fact that a claimant for workmen's compensation who has a right to share in the state workmen's compensation fund is entitled to have the state bureau furnish him with necessary medical services does not, the North Dakota Supreme Court holds, Henderson vs. Scott, 10 N. W. 2d 490, relieve him from liability for the reasonable value of the services rendered him by a physician employed by himself and the bureau. The claimant is liable to the physician because of his own contract. Under statutes such as those of North and South Dakota a physician is not compelled to perform medical services for a claimant. He need not agree to do so either with the claimant or with the bureau. He is a third and independent party, not legally bound to render services for either. He may make such legal contract as he sees fit and therefore he may contract with the claimant without reference to the bureau, but he cannot maintain an action against the bureau for the value of such services, the bureau as constituted not being a legal entity subject to suit, and a suit against it is in legal effect a suit against the state. Also, such an action would subject the fund to a debt not contemplated by the statute.

Leaving Sponge in Wound Not Malpractice Unless Negligence and Injury are Proved

In an action against a physician for malpractice in leaving a sponge in the chest of a patient after the defendant had performed an operation, the last of four to which the patient had submitted, an instruction directing a verdict for the plaintiff if the jury found that the defendant, after the operation, had left a sponge in the patient's chest, but not requiring a finding that the physician was negligent in so doing, or that injury was caused to the patient, was held to be insufficient and prejudicial to the defendant.

The fact that the evidence showed that the sponge might have been left in the patient's chest in any one of the four operations was also held to require a reversal of judgment for the plaintiff and the remand of the case, with leave to the plaintiff to amend his petition. Stilton vs. Mudd, St. Louis, (Mo.) Court of Appeals, 174, S. W. 2d 31.

Alleged Enforced Hospitalization Not Proved

Action was brought against a physician to recover damages for his alleged tortious conduct in forcing the plaintiff, to her injury and damage, to remain in a hospital, over her protest, long after he had successfully operated on her for the removal of a tumor, and long after she had recuperated sufficiently to go to her home. The trial of the case resulted in a verdict and judgment for the doctor. On appeal the Georgia Court of Appeals affirmed the judgment, holding that the voluminous brief of evidence showed that the evidence, though in sharp conflict, supported the verdict. Kea vs. Claxton, 26 S. E. 2d 371.

NEW CONVENIENCE IN TREATING ECZEMA AND INDUSTRIAL DERMATITIS

Nason's
INDIVIDUAL TREATMENT KIT

The new SUPERTAH Ointment Kit is designed to make it easy for the busy Physician to prescribe or dispense this White, Non-Staining coal tar ointment in treating Eczema. To be fully efficacious the coal tar therapy must be continuous, which requires either constant supervision by the Doctor or co-operation by the patient—often difficult to assure.

A COMPLETE TREATMENT IN ONE PACKAGE

Each SUPERTAH KIT contains a 4-oz. bottle of LOTOKAL (Nason's Calamine Lotion) for soothing affected areas to relieve itching, a 2-oz. jar of SUPERTAH Ointment (either 5% or 10% strength as ordered) and detailed but easy-to-follow directions. Your patient thus always has at hand everything necessary for following your instructions. In addition, SUPERTAH's ease of application and freedom from the disagreeable properties of crude black coal tar preparations make the patient more willing to use it continuously.

SUPERTAH HAS POSITIVE ADVANTAGES

1. SUPERTAH does not stain linen or clothing.
2. It will not irritate or stain the skin nor produce pustulation.
3. It need not be removed before each fresh application, yet *can* be easily removed.
4. SUPERTAH is fully effective, without the unpleasant odor and appearance of black coal tar.

SUPERTAH (Nason's), either 5% or 10% strength, is available at leading prescription druggists in 2-oz. jars or in the Individual Treatment Kit with Lotokal.

SUPERTAH (NASON'S)

is a white creamy ointment prepared from a concentrate of crude coal tar, uniformly milled in proportions to equal either a five (5) or ten (10) percent crude tar ointment.

"It (Supertah) has proven as valuable as the black coal tar preparation and the advantage of the diminution of the black color is perfectly obvious."

—Swartz & Reilly, "*Diagnosis and Treatment of Skin Diseases*," p. 66

TRADE MARK SPHINX

TAILBY-NASON COMPANY
Kendall Square Station, BOSTON 42, MASS.
RELIABLE PHARMACEUTICALS SINCE 1905

SEND FOR COMPLIMENTARY PHYSICIAN'S SAMPLE

TAILBY-NASON CO., Kendall Sq. Station, Boston 42, Mass.
Please send me without charge one sample
Individual Treatment Kit with SUPERTAH (Nason's)
.....% strength. MR-544

Name .....
Street .....
City .....
State .....

TRUTH OF THE MATTER

Good Nutrition Under Rationing

T. SWANN HARDING
Falls Church, Va.

(*Continued from page 246*)

Workers readily become fatigued on vitamin-deficient diets and get sore muscles, backache, depressed mental states. They become irritable and uncooperative. Yet millions regularly live on diets below the safety line, while many workers feed poorly or unwisely when eating out or live at home where the cooking is sketchy and the ration poor. Students also frequently pick poor diets for themselves.

For instance, a hundred University of Nebraska girls were studied for a year while they ate precisely what they wanted. They were aged sixteen to twenty-six and came from farms, towns, and cities. The foods available to them would have provided all the calcium, nitrogen, iron, and phosphorus they needed, but half of them failed to get sufficient of these essentials.

Only nine of the one hundred maintained adequate diets, and they also proved to be the best of the lot physically. The failure to eat properly was traced to poor food habits. Had they spent ten cents a day for skim milk instead of candy bars many of them would have eaten much more wisely. Students eating at home did no better than those who ate in cafeterias.

Surveys of industrial workers tell a similar tale. Since the criteria used are often poor, that is, a meal could meet its requirements and still be nutritionally inadequate, they probably do not tell all the story. In one instance, while the food used to prepare a thirty cent luncheon special seemed adequate, the cooked food provided far less than one-third of the worker's daily vitamin needs. It looked all right as raw food but provided only four percent of the daily thiamine and less than six percent of the vitamin C the worker needed daily.

On the other hand, a fifty-seven cent luncheon selected scientifically at this same cafeteria provided all nutritional needs, but the average spent by the workers was only thirty-seven cents. The investigator then found that if a raw salad was added to the thirty-cent special, making it forty cents, it would be satisfactory. The salad consisted of chopped cabbage, green peppers, radishes, grated carrots, vinegar, salt, and sugar. The special usually contained no salad.

The tendency of the workers is to take meat, potato, bread, pie, and coffee or milk for lunch. In one plant only twenty-four percent ate a good lunch and twenty-six selected a poor one, though a liberal diet could have been had. In another, only twelve percent had good while forty-one percent had poor lunches. In a third, with limited choices, none selected good lunches and seventy-seven percent took poor ones.

Coffee and soft drinks tended to be purchased because they were five cents, while milk, usually unavailable in half-pints, and orange juice were eight or ten cents. Many workers do not select good meals at cafeterias through ignorance, but many more could not afford to select good meals even if they knew how.

The Servel Company's nutrition in industry program is of interest in this connection. Impressed by the fact

To Hasten the Slow Convalescence

following respiratory infections give your patient the bitter tonic benefits of

Gray's Compound

Such cases do well on the Gray's Compound Formula: Gentian, Dandelion, Wine, Glycerine, Phosphoric Acid, Tr. Cardamom Comp. and Sugars.

In these days when it is essential for patients to "get back on the job" as soon as possible, you will find Gray's Compound a valuable addition to your armamentarium.

THE PURDUE FREDERICK COMPANY

(Also Compounders of Hyperol, a Utero-Ovarian Tonic)

135 Christopher Street New York 14, N. Y.

'SULFASUXIDINE' succinylsulfathiazole is promptly effective
in the treatment of acute or chronic bacillary dysentery[1] as well as its carriers.[2]
In the majority of patients, temperature returns to normal within twenty-four hours
and stools become free from dysentery organisms within forty-eight hours.
Moreover, "because of the apparent great efficacy of succinylsulfathiazole in
bacillary dysentery and the absence of toxic symptoms due to the administration
of this drug," its use as a prophylactic agent has been suggested.[1]
'SULFASUXIDINE' succinylsulfathiazole is supplied in 0.5 Gm. tablets in bottles of 100
500 and 1000, as well as in powder form (for oral administration)
in ¼ pound and 1 pound bottles. **Sharp & Dohme, Philadelphia 1, Pa.**

1 J. Lab. & Clin. Med., 28:162, 1942. 2. J. A. M. A., 119:615, 1942.

'SULFASUXIDINE' *Succinylsulfathiazole*

that twenty-four million man-hours of labor are said to be lost monthly because of common illnesses, in part attributable to poor nutrition, and the further fact that surveys of both home-cooked and cafeteria meals eaten by workers indicated they rarely got good diets, the company decided to do something.

So it promoted socalled victory lunches in its own and in other plants, with the cooperation of the plants and usually of the local gas companies. The prices charged at Servel's own cafeteria were twenty-five cents for the luncheon, thirty cents for the breakfast, and thirty-five cents for the dinner specials. The meals were based squarely on the advice of leading government nutrition scientists. Pamphlets and posters were used to promote the campaign.

In four months there was sixteen percent less absenteeism at the Servel Company's Evansville plant There were also fewer rejects, a better safety record, and considerably increased production. In short, the plan was probably self-sustaining. In the same way the school-lunch program was probably self-sustaining in the long run, for it prevented millions of children from growing up to be unhealthy handicapped adults.

An expenditure made for sound nutrition is an investment that brings dividends. Any methods that will result in all having the basic essentials of a good diet are worth putting into operation. Fortunately we can attack this problem functionally in wartime.

The rationing program must be related directly to scientific standards of nutrition. We have pretty good evidence on the extent of malnutrition among our people. Our nutrition scientists also know the constituents of a good diet for all of us. Our agricultural scientists know how we can produce the raw materials for giving us that diet and can set planned goals for farm production which are achieved.

During war this food must be so distributed that while all civilians, except heavy workers, have a restricted choice of foods and fewer calories than normally for those on decent incomes, our armed forces and heavy workers get the finest diets that can be produced, and sufficient is set aside for our needy allies to keep their morale and physical stamina at par. When peace comes, however, there is no reason why we should discard the scientifically planned production and distribution of food.

Our diet can gradually be enriched as the possibility of world famine fades. Many exotic and luxury foods can still be imported or produced to be sold at a profit to those who can afford them. But there is no scientific reason why we could not still survey the nutritional needs of our people and plan the production of such foods as would supply them. There is no scientific reason why the essential constituents of a basic diet should not be distributed equitably to all, entirely outside the profit and price system if need be, so that none need go poorly fed.

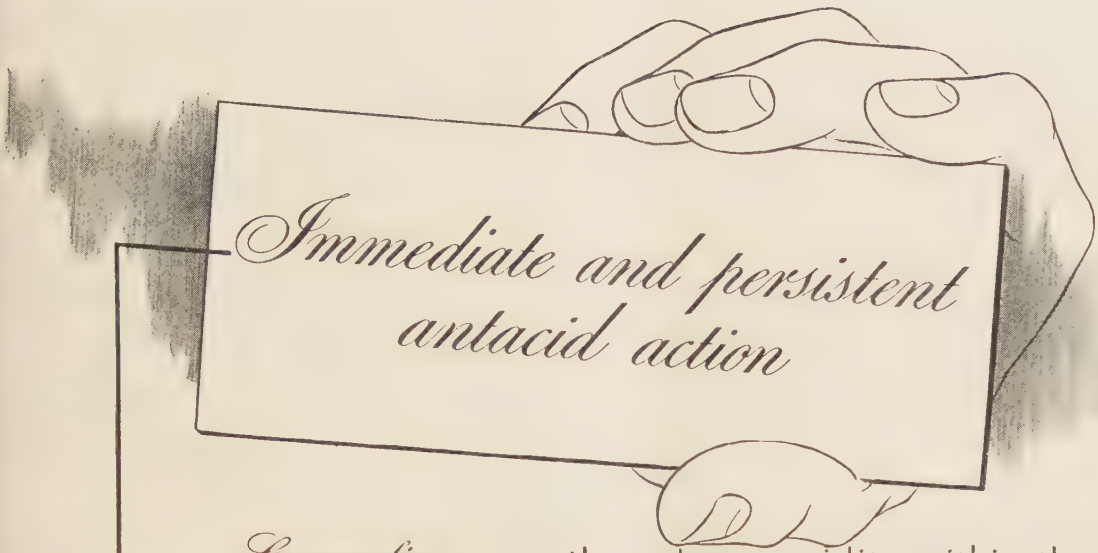
In his annual report for 1942 the Secretary of Agriculture stressed the fact that "our plans must take account of world needs, especially during the reconstruction period. The people of war-torn nations must be fed. Millions in the occupied countries of Europe and other parts of the world will be hungry and looking to us for food." Now it is both unreasonable and unscientific to propose that while we feed those in other lands we permit some of our own people to go malnourished.

PASADYNE

gives marked relief in both cardiac and bronchial asthma, and in asthma of peripheral reflex origin.

It does not disturb the digestion and produces no subsequent nausea and depression.

JOHN B. DANIEL, Inc. Atlanta, Georgia



Immediate and persistent antacid action

Creamalin promptly reduces acidity within the stomach. The antacid effect is persistent. There is no local compensatory reaction, such as commonly occurs with alkalies, and hence no belated oversecretion of hydrochloric acid. Moreover, there is no risk of producing alkalosis.

Creamalin promptly relieves pain and heartburn associated with gastric hyperacidity.

Creamalin often induces healing of peptic ulcer when employed with an ulcer regimen.

agreeable to taste
convenient to carry and to take
efficient in action

CREAMALIN

Reg. U.S. Pat. Off.
Brand of ALUMINUM HYDROXIDE GEL
TABLETS

ARMY NAVY

WINTHROP

WINTHROP CHEMICAL COMPANY, INC.
Pharmaceuticals of merit for the physician
NEW YORK 13, N. Y. WINDSOR, ONT.

That this is not contemplated is also evident from the same report where it is emphasized that good food must reach our entire population, "clear through to the dependent groups. The proper feeding of these people is not a liability but an asset to the nation." It promotes public health, saves doctor and hospital bills, lessens child delinquency, and prevents crime.

As the Secretary also said, "The charge for dependency is socially inescapable. Good feeding of dependent people keeps it down." After peace comes we must maintain such food production and distribution devices as will wed rationing on the basis of need to sound nutrition throughout our entire population. All should first be guaranteed a sound basic diet as a purely functional means of achieving democratic ideals.

Garlic in the Treatment of Hypertension

The Van Patten Pharmaceutical Company, of Chicago, has prepared a booklet entitled "The Therapeutic Use of Garlic Concentrate in Hypertension", which presents a comprehensive review of the subject of hypertension, its incidence, etiology, symptoms and treatment. The economic aspects of the problem are also discussed.

While the etiology of this disease has not been definitely determined and opinion is somewhat divided on the subject, all authorities agree that adequate treatment is of great importance. In the treatment, Allimin, a preparation of dehydrated garlic concentrates with dehydrated parsley concentrate as a synergistic adjuvant, is finding ever increasing use as a safe and efficacious agent for reducing high blood pressure and relieving the attending symptoms. Pharmacological study and clinical tests have proved the value of Allimin in the treatment of hypertension.

The use of garlic as a therapeutic agent has an interesting history. It dates back to antiquity, and the writings of contemporary authors show that its use has persisted in medicine down to modern times. The ancients credited it with healing powers in a great variety of diseases, even in the treatment of leprosy, but today its uses are based upon accurate scientific observation and experiment and its employment is much less broad. The medical action of garlic has been studied clinically and pharmacologically and further research is being conducted in regard to its hypotensive action. This research is being sponsored by the Van Patten Pharmaceutical Company. In addition to the value of garlic in the treatment of hypertension, it has been used in gastrointestinal disorders with good effect.

The economic aspects of the problem of hypertension are shown to be important and far-reaching. Interesting statistics are presented which demonstrate the increasing menace of hypertension as a cause of morbidity and mortality, and emphasize the fact that it is a problem which must command the attention of all physicians and public health workers.

Physicians will find this booklet of great interest. Its value has been greatly enhanced by the addition of a complete bibliography, containing 140 references from the literature. Copies of this booklet and professional samples of Allimin may be obtained by writing to the Van Patten Pharmaceutical Company, 500 North Dearborn Street, Chicago 10, Ill.

On the Job—OUR FEMININE "MANPOWER"
OFFICIALS of the War Manpower Commission assert that women today can capably "take over" any man's job, *provided it is within their physical powers.*
Menstrual aberrations, however, cause frequent absenteeism and loss of efficiency. For the symptomatic treatment of functional conditions, physicians find Ergoapiol (Smith) a highly efficient emmenagogue, in which the action of all the alkaloids of ergot (prepared by hydro-alcoholic extraction) is synergetically enhanced by the presence of apiol, oil of savin, and aloin.
Its sustained tonic action on the uterus provides welcome relief in many cases—by helping to induce local hyperemia and to stimulate smooth, rhythmic uterine contractions, and by serving as a potent hemostatic agent to control excessive bleeding.
May we send you a copy of the booklet "The Symptomatic Treatment of Menstrual Irregularities."
INDICATIONS
Amenorrhea, dysmenorrhea, menorrhagia, metrorrhagia, in obstetrics.
Dosage: 1-2 cap. 3-4 times daily.
Supplied: In ethical packages of 20 cap.
MARTIN H. SMITH CO.
150 LAFAYETTE STREET
NEW YORK, N. Y.
ERGOAPIOL
THE PREFERRED UTERINE TONIC
Ethical protective mark, M. H. S., visible only when capsule is cut in half at seam.
MHS

ELIXIR 'OMNI-BETA'

A RICH ROUND-UP

of *all* the natural B factors from their most potent natural sources—liver, rice and yeast —with added thiamine hydrochloride, riboflavin and niacin amide.

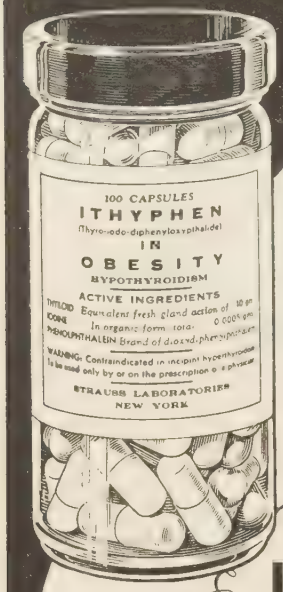
Elixir 'Omni-Beta' is a *complete* B-complex preparation, blended and made easy to take in a delicious elixir, each fluidounce of which provides: thiamine hydrochloride, 12 mg.; riboflavin, 16 mg.; niacin amide, 80 mg.; pantothenic acid, 11 mg.; pyridoxine hydrochloride, 2.8 mg. Bottles of 4 and 8 fluidounces.

William R. Warner & Co., Inc., New York 11, N. Y.

Elixir 'Omni-Beta'
Reg. U. S. Pat. Off.

VITAMIN B COMPLEX

OMNIS ORBIS
WARNER
ESTABLISHED 1856

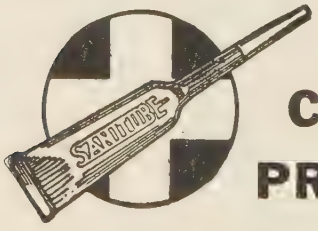


In addition to our own clinical tests, over 15 years of successful use by the medical profession prove that in hypothyroidism, ITHYPHEN is a highly effectual reducing medication without undue toxic by-effects.

Samples and literature on request. Kindly enclose your professional card or letterhead.

Prescribe
ITHYPHEN
***in* OBESITY**
ADVERTISED ONLY TO THE PROFESSION

STRAUSS LABORATORIES
1328 Broadway, New York



COMPLETE PROTECTION

Against Gonorrhea and Syphilis

Sanitubes, the original Navy prophylactic tubes, are not sold in Army post exchanges.

Every drug store a prophylactic station!

A single tube only—half the ointment inside the urethra to prevent gonorrhea, half applied outside to protect against syphilis.

No "two tubes" to get confused, no color to stain fingers and clothing, no odor, no irritation.

As to comparative efficiency, let us send you laboratory findings.

THE SANITUBE CO., NEWPORT, R. I.

A Century and a Half of Service to Health

In commemorating one hundred and fifty years continuous service to American health, Schieffelin a Co. have published the history of the "oldest dr house in America" from its foundation in 1794 to t present time. While the drug business was establish in 1781 by Effingham Lawrence, it was in 1794 that Schieffelin became associated with it. Since that tir six generations of Schieffelins have directed the po cies and controlled the destinies of the company. TH book is more than the history of a business. It is a "epitomized record of success of the American syste of enlightened free enterprise on the profit motive". is the chronicle of an essential wholesale drug distri uting and pharmaceutical manufacturing organizatio

The House of Schieffelin was already started in t pharmaceutical business at the very beginning of a era of discoveries and advances in chemistry, pha macy, medicine and public health which revolutionize the practice of medicine and pharmacy, and made t services of such firms as Schieffelin and Co. a vit necessity for the manufacture and distribution of ne miracles of research. Dozens of new drugs were d covered and the evolution of organic chemistry led the production of a vast number of new antipyreti analgesics, antiseptics and hypnotics, many of whi are still used. This "chemotherapeutic era" is still its height and has led to such present day discover as the sulfa drugs and penicillin.

Among the remarkable achievements in medici and pharmacy during the life of this Old House so of the most spectacular are in preventive medicin causes and treatment of diseases, and elimination yellow fever and other scourges in the United Stat and other large areas. These include vaccines and ser insulin, glandular products, and so on. These repr sent only a very small part of the progress made pharmacy in one hundred and fifty years.

In most of these developments Schieffelin & Co. h had a hand, either as a manufacturing pharmacist in its role as a wholesale distributor.

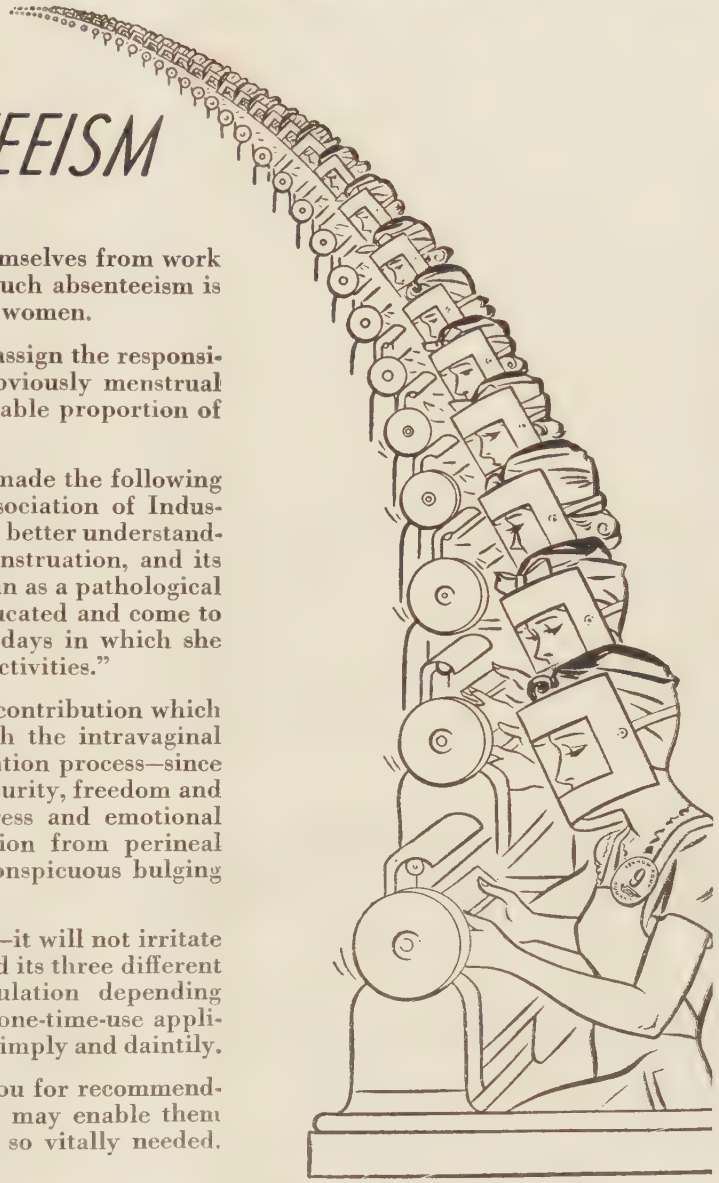
There is an interesting biography of Jacob Schie felin who established the firm of Schieffelin & Co. 1794 and other members of the family who have ca ried on the traditions of this famous drug house.

The story of the part played by Schieffelin & C during the past one hundred and fifty years in war an pestilence and in time of peace is told in this bookle and it is a record of high achievement of which th House of Schieffelin may well be proud.

EFFECTIVE THERAPY
IN
Otitis Media
Requires Analgesia-Bacteriostasis, and Dehydration of the Tissues.
Auralgan
The Doho Chemical Corp., New York-Montreal-London

OBJECTIVE

REDUCTION OF FEMALE ABSENTEEISM



Statistics show that women absent themselves from work much more often than men; indeed, such absenteeism is said to be 50 per cent[1] higher among women.

Though available data do not clearly assign the responsibility for this marked differential, obviously menstrual inconveniences account for a considerable proportion of the days lost.

On this point Pommerenke[2] recently made the following observation before the American Association of Industrial Physicians and Surgeons: "With a better understanding of the purpose and nature of menstruation, and its recognition as physiological rather than as a pathological process, many a woman may be re-educated and come to regard the so-called difficult days as days in which she need not seriously curtail her usual activities."

Many physicians have discovered the contribution which *improved menstrual hygiene* (as with the intravaginal tampon Tampax) affords this reeducation process—since it provides such a welcome sense of security, freedom and poise by relieving the physical distress and emotional uncertainty caused by vulval irritation from perineal pads, or from olfactory offense, or conspicuous bulging under slacks or coveralls.

Tampax can be used easily and safely—it will not irritate delicate tissues nor block the flow. And its three different absorbencies permit individual regulation depending upon daily needs. Compressed into a one-time-use applicator, it may be inserted and removed simply and daintily.

Your patients should be grateful to you for recommending Tampax—and (in many cases) it may enable them to stay "on the job" where they are so vitally needed.

(1) Mod. Med., 11:130, 1943; (2) Ind. Med., 12:512, 1943

TAMPAX INCORPORATED • PALMER, MASS.

ACCEPTED FOR ADVERTISING BY THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

TAMPAX

TAMPAX INCORPORATED
Palmer, Mass.
Please send me a professional supply of the three sizes of Tampax.

MR 54

Name .....

Address .....

City .....

DPS

Leadership
in Biochemical Formulae

Introducing the Dartell Formulation of
ORAL ESTROGENS
Combined with synergistic factors of vitamin E and Lecithin.
Supplemental Estrogenic administration is of recognized importance in cases of
MENOPAUSE and MENSTRUAL IRREGULARITIES
DPS Formula 109 provides the natural Estrogenic substance in convenient tablet form for oral administration.
DPS Formula 109
Bottle of 90 Tablets (List Price) **$5.00**
Write for Therapeutic Brief covering this subject

Dartell Laboratories
MANUFACTURING BIOCHEMISTS
1226 SOUTH FLOWER STREET
LOS ANGELES 15, CALIF.

"Pure Water Like Pure Air Is Vital To Health"

GREAT BEAR
IDEAL SPRING WATER

ELECTRIC WATER COOLERS AT SMALL MONTHLY RENTALS

•

ALSO ENJOY WHOLESOME GREAT BEAR BEVERAGES
Ginger Ale—Club Soda—Root Beer

•

GREAT BEAR SPRING COMPANY
New York—Brooklyn—Albany—Buffalo
Newark and the Oranges—Jersey City
Philadelphia

•

Consult Your Telephone Directory For Office Nearest You.
Free Home or Office Delivery in Above Areas.

Warm Springs Foundation

The Georgia Warm Springs Foundation in its annu report, includes with figures and financial statemen the inspiring and graphic word picture of this rema able community that Harold A. Littledale wrote for t *New York Times Magazine* (Jan. 23, 1944). Ma but not all, of the visitors to Warm Springs have be crippled by poliomyelitis. Mr. Littledale emphasi the fact that there no one is sick, and the Foundati has wisely oriented the life of the community to acco modate healthy people, with faculties unimpaired with some motor problem to overcome, by setting up normal environment.

The Georgia Warm Springs Foundation, organiz in 1937 under the guidance of President Roosevelt, a non-stock, non-profit organization, developed for t two fold purpose of using the natural facilities the and the skill of a carefully selected professional sta for direct aid to the people coming for help, and to pa on to hospitals and the medical profession valuable a practical lessons learned from research and experien No distinction is made in the care and housing of vi tors. Of the 541 guests during the year sixty-four p cent received financial assistance. Slightly more th half the income for the Foundation comes from National Foundation for Infantile Paralysis Inc. Wit out this aid Warm Springs would show an operati loss. The appeal for help to this tremendous cause go out each year with the March of Dimes. But the exte to which the service can be expanded, in numbe helped, in greater facilities, depends on the people the United States to give liberally whenever they car

The Home Front

Women are leading more active lives during this War and need protection against the natural periodic loss of energy

Hypero

a utero-ovarian tonic and corrective for disorders of func tional origin, should relieve pain and lassitude and help your patient to keep up active work without interruption

HYPEROL contains Hydrastine Alkaloid, Aloin, Apio and Ferrous Carbonate (Blaud).

Samples to Physicians on Request.

THE PURDUE FREDERICK COMPAN
(Makers of Gray's Compound)
135 Christopher Street New York 14, N.

Basic facts about

PRIODAX

tablets

(beta-(4-hydroxy-3, 5-diiodophenyl)-alpha-phenyl-propionic acid)

A NEW, *unique* GALLBLADDER CONTRAST MEDIUM.

Not a phenolphthalein DERIVATIVE.

Not A GASTROINTESTINAL *irritant.*

Well-tolerated: VOMITING AND SEVERE DIARRHEA ARE RARE.

Dependable SHADOWS ENHANCE *diagnostic accuracy.*

Easy to administer:
6 TABLETS SWALLOWED WHOLE DURING OR AFTER A LIGHT EVENING MEAL. X-RAY EXPOSURES IN 12 AND 15 HOURS.

PRIODAX supplied in cellophane envelopes, each containing 6 tablets. Boxes of 1, 5, 25 and 100 envelopes.

Priodax U. S. Patent Number 2,345,384.

SCHERING CORPORATION BLOOMFIELD • NEW JERSEY

BONDS...TO WELD THE BONDS OF DEMOCRACY!

Parachute Injuries

Captain William J. Tobin, Medical Corps, U. S. Army (*Military Surgeon,* April 1944) presents a report of the results of a survey made of the various injuries, particularly fractures, sustained by "paratroopers" in training at the Parachute School, Fort Benning, Ga. He says that the most important cause of injury is cross wind currents which result in uncontrolled os lations of the parachute. The principal factors to considered in the prevention of injuries are careful s lection of candidates, athletes being most adaptabl early elimination of candidates found mentally or ph ically unfit for jumping; adequate, gradual training appreciate height and rate of decent; use of a prop fitting uniform, not too tight or too loose; proper fitting shoes giving good support to the ankles, fairly flexible, and adequate training in proper conta with the ground. From the results of this survey t author has drawn the following conclusions: The to injury rate at the Parachute School is now lower th at the end of the first year of jumping although the has been a great increase in the number of jumps. Th is due chiefly to improved methods of training, main during the preliminary stages, and also to the rece change in the position of the jumper's feet in conta ing the ground. Unequal distribution of weight in lan ing is a principal factor in the production of injuri the most common of which are fractures in the regi of the ankle. However, the rate, as a whole, is almo incredibly low, considering the hazards of paracht jumping.

EFFECTIVE TREATMENT OF YOUR NEXT CASE OF EPIDERMATOPHYTOSIS

CASTADERM

LANNETT

A liquid dermatological preparation containing resorcin, boric acid, acetone and carbolfuchsine.

Ethically advertised to the profession only

PACKED IN 1 OZ. APPLICATOR BOTTLES

Send for professional sample

MADE IN U. S. A. BY

THE LANNETT CO., INC.

PHILADELPHIA 25, PENNA.

BURNHAM SOLUBLE IODINE

Permits accurate Iodine dosage, so important in the treatment of thyroid conditions. Each drop supplies 1 mgm. total iodine. No iodism follows its use in indicated cases.

Literature and sample on request

Burnham Soluble Iodine Co., Auburndale 66, Boston, Mass.

DR. BARNES SANITARIUM

STAMFORD, CONNECTICUT

For treatment of Nervous and Mental Disorders, Alcoholism and Convalescents. Carefully supervised Occupational Therapy. Facilities for Shock Therapy. Accessible location in tranquil, beautiful hill country. Separate buildings.

Telephone 4-1143

F. H. Barnes, M.D., Med. Supt.

"INTERPINES"

GOSHEN, N. Y.

Phone 117

ETHICAL—RELIABLE—SCIENTIFIC

Disorders of the Nervous System

BEAUTIFUL—QUIET—HOMELIKE—WRITE FOR BOOKLET

Frederick W. Seward, M.D., Director Frederick T. Seward, M.D., Resident Physician Clarence A. Potter, M.D., Resident Physician

Lowering blood pressure of hypertensive patients must be done safely to avert fatalities. Sustained effect and low toxicity should characterize the medication employed, qualities difficult to achieve with the nitrites and barbiturates respectively.

HEPVISC has proved a valuable hypotensive, with extensive clinical use. Not only does it bring blood pressure down in a gradual manner, but its effect is sustained. Striking relief of hypertensive symptoms such as headaches, dizziness and tinnitus also ensue with the administration of HEPVISC in well over 80% of cases.

Each HEPVISC Tablet contains Viscum album extract 50 mg., hepatic desiccated substance 60 mg. and insulin-free pancreatic desiccated substance 60 mg.

INDICATIONS: Essential hypertension, benign hyperpiesia, fibrotic kidney and hypertension accompanying pregnancy.

DOSAGE: Average dose is 3 to 6 tablets daily, in divided doses ½ hour before meals. Continue treatment for 2 to 3 weeks with a week's interval between courses.

BOTTLES OF 50 AND 500 TABLETS

HEPVISC

FOR SUSTAINED HYPOTENSIVE EFFECT

ANGLO-FRENCH LABORATORIES, INC.

75 VARICK STREET, NEW YORK 13, N. Y.

Service
VITAMINERALS are delivered to the doctor promptly through authorized Distributors strategically located from coast to coast.
Send for the "VITAMINERALS MANUAL"
VITAMINERALS CO.
3636 BEVERLY BLVD., LOS ANGELES 4, CALIF.

Advertising and the War

A beautifully illustrated booklet entited "A Mat of Life and Death" has been prepared by the War A vertising Council, Inc., in cooperation with the U. Army and the Office of War Information, and is spo sored by Bristol-Myers Company and its affiliates, cluding the Harris Laboratories and the Cheplin B logical Laboratories. This booklet is a valuable dire tive on how advertising can aid in the war effort. T purposes of such advertising as outlined by the Me cal Department of the Army are, first of all, to info the American people that the men in our armed forc are well cared for under every military condition and make known the work that is being done in every the ter of war by the Department. Other objectives are t maintenance of morale, both at home and at the fro to stimulate production in the medical industry, to sure the necessary supplies and to aid labor relatio by teaching employess the vital importance of th work and to assist in the recruitment of the much nee ed nurses. The work of the Medical Department co ers a wide range of activities and a number of them have been suggested that can be used in connec with advertising. For example, the work of the medi officer and the Army nurses, the heroism of the medi soldier, transportation and other equipment, the a plication of science to civilian life. All these activi are illustrated with appropriate pictures. One interes ing series of pictures shows the evacuation of casualt from front line to base hospital. Vital statistics are a given, showing the very low rate of mortality from w wounds and disease, as compared with the first wor war. A tribute is paid to the American Red Cross

DEFINITE TREATMENT
FIXED CHARGES
MINIMUM
HOSPITALIZATION
•
AUTHORITATIVE
INFORMATION
AND HOSPITAL
LITERATURE
ON REQUEST

THE CHAS. B. TOWNS HOSPITAL
43 SUCCESSFUL YEARS
TREATING DRUG AND ALCOHOL CASES
EXCLUSIVELY
•
293 Central Park West (at 89 St.), New York 24, N.Y.
SChuyler 4-0770

in whooping cough

ELIXIR BROMAURATE
IS A UNIQUE REMEDY OF UNIQUE MERIT
Cuts short the period of illness and relieves the distressing spasmodic cough. Also valuable in other **Persistent Coughs** and in **Bronchitis** and **Bronchial Asthma.** In four-ounce original bottles. A teaspoonful every 3 to 4 hours.
Prescribed by Thousands of Doctors
GOLD PHARMACAL CO. NEW YORK CITY

s fine cooperation with the Medical Department in aring for wounded American soldiers outside the com- at areas.

This booklet should be of interest and value to all dvertisers. For further information write to the War dvertising Council, 60 East Forty-Second Street, New ork 17, New York.

National Wartime Conference of the Sciences and Professions

The wartime role of professionals and the full utilization of their skills in a prosperous postwar America will be discussed at the second National Wartime Conference of the sciences, professions and white-collar groups, to be held Friday and Saturday, June 2d and 3d, at the Hotel Commodore, New York City, according to an announcement by Dr. Kirtley F. Mather, chairman. The conference will open on Friday evening, with a public session in which international collaboration of the professions and the role of the professions in this collaboration will be discussed by outstanding leaders in government, business, labor and the professions. Saturday will be devoted to panel discussions on full employment, postwar readjustment and standards of living. In a statement outlining the importance of the conference, Dr. Mather urged that government and industry consider measures that would insure full utilization of the scientific, professional and white collar skills in the conversion and demobilization period if this country is to be equipped to take full advantage of the tremendous opportunities the postwar world will offer. Nearly one hundred organizations will participate in the conference.

DIATHERMY TUBES by UNITED

• Available for replacements in most standard makes of machines, under provisions of War Production Board Order No. L-265.

• Since 1936, UNITED Tubes have been standard initial equipment in most of the leading makes of short wave diathermy machines.

Write for descriptive folder and tube replacement guide, for correct selection of type required for your machine. (There are 12 different types.)

Available at your surgical supply house or radio parts distributors.

UNITED ELECTRONICS COMPANY
NEWARK 2 • NEW JERSEY

ESTIVIN

During the late Spring and early Summer distressing ocular and other nasal discomfort due to pollen allergy may be effectively relieved with ESTIVIN.

Itching eyes, lacrimation, paroxysms of sneezing and associated ocular and nasal symptoms respond promptly to this local treatment of Rose Cold.

One drop of ESTIVIN in each eye, two or three times daily is generally sufficient to keep the average patient comfortable during the entire pollen season. In more severe cases, additional applications whenever the symptoms recur will afford relief throughout the day.

Schieffelin & Co.
Pharmaceutical and Research Laboratories
20 COOPER SQUARE • NEW YORK 3, N. Y.

HARROWER
ENDOCRINES

ENDOTHYRIN

Thyroid extract
(thyroglobulin)

Dependable potency
(iodine 0.62%)

Lower toxicity
(better tolerated--less
heart-stimulating effects)

Samples and literature on request

The HARROWER LABORATORY, Inc.
GLENDALE, CALIFORNIA
NEW YORK CHICAGO DALLAS

USE THIS BLANK
FOR SUBSCRIBING
To MEDICAL RECORD

The Medical Journal & Record Pub. Co., Inc.
215 Fourth Avenue, New York 3, N. Y.

Please enter my subscription to the Medical Record for one year, beginning.....

.....

☐ Enclosed find payment.

☐ Send me bill.

Name .....

Street .....

City..... *Zone*.... *State*.....

Subscription Price, $4.00 Foreign, $4.75

Combined Toxoids for Active Immunizatio

The National Drug Company, of Philadelphia, P have added to their comprehensive line of biologica Diphtheria-Tetanus-Pertussis, Combined, which co fers simultaneous protection against three diseases wi only one series of three injections, thus providing quic er protection with fewer injections. It is designed confer adequate protection to infants and preschool a children. Each cc. of the preparation contains H. p tussis killed, 10,000 million; diphtheria toxoid, 0.33 and tetanus toxoid, 0.33 cc. The toxoids are adjusted 0.5 cc. human dose concentration so that in the co plete treatment (three injections), the full amount each toxoid (1.0 cc.), as recommended by Public Hea authorities, is injected. Treatment consists of three cc. subcutaneous injections with an interval of three four weeks between injections. It is supplied in sing immunization packages of three 1 cc. vials and five-i munization packages of three 5 cc. vials.

New British Journal

The *British Journal of Industrial Medicine* has ma a promising beginning. It is another of the specialt quarterlies published by the British Medical Associ tion and owes its origin to the group comprising Association of Industrial Medical Officers, formed 1935 for the purpose of pooling experience and forwar ing common aims among medical men employed various branches of industry. The *British Medic Journal* (Jan. 29, 1944) gives the new publication warm welcome and comments on its usefulness and a peal.

The first number, which appeared in January, i cludes an article on the evolution of an industrial s ciety by Greenwood which underlines the close re tion between industrial medicine and medicine as whole; "Industrial medicine" says the *British Medic Journal,* "is domestic medicine writ large as we are r minded by the . . . articles on heating and ventilati . . . nutrition and the industrial worker . . . foot fau related to form and function.

Special problems of industry toxicology, stress a strain of environment, the opportunity the factory a workshop gives the doctor and welfare worker of findi out how people live and thus be able to give them i struction in personal and communal hygiene, are de with. The international aspect of the new journal highlighted by an article on medical service in indust in the United States by Dr. Orlen J. Johnson.

USE COLLENE
REG. U.S. PAT. OFF.

Wherever silver is indicated

You and your patients will equally appreciate the cleanliness and effectiveness of Collene, the original clean and stable silver solution—Always ready for use.

Write us for Samples and Literature

COLLENE LABORATORIES, Inc.
77 White Street New York 13, N. Y.

Conference on War and Postwar Health Problems

The Fifth Pan American Conference of National rectors of Health was held in Washington, D. C., ›ril 22d to 29th, for the purpose of discussing the al subject of Wartime and Postwar Health Prob-ns.Delegates from the twenty-one American Repub-s were present and representatives from Canada, itch Guiana, and the British West Indies.

While war and postwar problems were the main ›ics of discussion, practically all matters affecting the alth of the Americas were considered. Among the bjects discussed were improved national and inter-tional disease reporting, aerial navigation, port sani-ion, quarantine regulations, and the adoption of an ternational Health Certificate, in their relation to the rtime and postwar prevention of the international read of communicable diseases, including diseases animals transmissible to man. The standardization regulations governing foods, drugs, and biological oducts was also given consideration. Public health nditions in the various countries represented were scussed by men who are outstanding in this field.

The United States delegation included Dr. Thomas Parran, Surgeon General, and Dr. R. C. Williams, Assistant Surgeon General, U. S. Public Health Service; Brig. General J. S. Simmons, Medical Corps, U. S. A.; Captain S. J. Carter, Medical Corps, U. S. N., and G. L. Dunnahoe and Dr. R. E. Bodet, of the Quarantine Service.

In Constipation

Mechanical Rectal Dilation often succeeds when other modalities fail.

YOUNG'S

RECTAL DILATORS

have been used by the profession for more than 40 years to provide rectal dilation and aid in restoring normal tone where tight or spastic rectal sphincter muscles have brought about a constipated condition. Sold on prescription only —not advertised to the laity. Set of 4 graduated sizes $3.75, at ethical druggists or surgical supply houses. Write for literature.

F. E. YOUNG & CO. 412 E. 75th STREET CHICAGO 19, ILLINOIS

Mu-col
BACTERIOSTATIC DETERGENT

A Reliable Detergent for Mucous Surfaces

For more than forty years, physicians have found MU-COL to be desirable in treatment of mucous areas, whenever a soothing and trustworthy bacteriostatic detergent and solvent of discharges is required. Write for clinical evidence of value in treatment of leukorrhea. Samples, though limited by war, are available to physicians on request.

THE MU-COL CO.

Dept. MR-54 Buffalo 3, N. Y.

SISTER KENNY'S New Book on INFANTILE PARALYSIS

In collaboration with Dr. Jno. F. Pole (Univ. Minn.) Endorsed by the Nat. Foundation for Infantile Paralysis and many leading orthopedists.

Only authoritative work on the Kenny method. Richly illustrated. 368 pages.

Order it today. Price $5.00

GROVER'S HIGH FREQUENCY

To Practice PHYSICAL THERAPY Successfully you must understand the fundamentals and physics of electricity. Both are taught in a comprehensive manner in this work.

New Chapters **added in this edition, on SHORT WAVE THERAPY and HYPERPYREXIA. A book of experiences gleaned from thirty years practice. PRICE $3.50.**

Including a copy of Grover's Unique Book on Blood Pressure, with Diagnostic Chart.

"I WAS HITLER'S DOCTOR!"

A startling insight to Der Fuehrer's intimate life with details of the prolonged psychoanalytic treatments given this degenerate character by Dr. Kurt Krueger. $2.00.

We supply any book or magazine.

TIMELY NEW BOOKS

SULFONAMIDE THERAPY IN MEDICAL PRACTICE (New), *by F. D. Smith, M.D.* Exact dosage and toxic reactions of all the Sulfos and Penicillin. Illustrated. $5.00.

PICTORIAL HAND BOOK OF FRACTURE TREATMENT (New), *by Edw. L. Compere.* Most practical work on fractures in a decade; the latest methods illustrated and described; technic of skeletal traction and internal fixation. $4.25.

UROLOGY IN GENERAL PRACTICE, *by Ockerblad* and *Carlson* (Univ. Kas.) A mentor for practitioners who now must be able to handle the ordinary run of G-U cases; $4.00.

BED MANNERS, (New) Bed-iquette for the married. An intimate and confidential resume of bed-going and bed-doings; humorous and instructive. Illustrated. $2.00.

ENDOSCOPIC PROSTATIC SURGERY, *by Roger W. Barnes.* First illustrated technic of Transurethral method. $6.00.

NERVOUSNESS, INDIGESTION AND PAIN, *by Walter C. Alvarez.* A practical book for every day. $5.00.

PSYCHOTHERAPY IN MEDICAL PRACTICE, *by Maurice Levine.* Expert methods of handling "difficult" patients, by a master scientist. $3.50.

COCOANUT GROVE BURNS, a thrilling recital of the Boston fire tragedy, with detailed description of the treatment, in all its phases. Illustrated. $4.00.

ESSENTIALS OF PROCTOLOGY, *by Harry E. Bacon.* A concise, up-to-date treatise, based on a wide experience. $3.50.

MULLEN'S HAND BOOK OF TREATMENT arranged in alphabetical order for quick answers, 2000 formulae. $4.50.

REHABILITATION OF THE WAR INJURED

Covers the entire field of Reconstructive and Plastic Surgery, Orthopedics, Physical Therapy, Occupational and Re-educational methods. By American and British Specialists. A monumental volume. Illustrated. Send for prospectus. $10.00.

BIRTH CONTROL. Explains Ogino-Knaus technic. No mechanical or antiseptic interference. $2.00 postpaid, including timing chart.

SCIENTIFIC INTESTINAL IRRIGATION

by J. E. G. WADDINGTON, M.D.

An authentic record in print and picture of everything that colonic irrigation means to forward-looking medicine. Order today. Price $5.00.

PHYSICAL THERAPY

By J. E. G. Waddington, M.D., based upon 25 years experience as practitioner, author and teacher.

Last word on the application of the Short and Uultra-Short Wave Therapy, Diathermy, Electro-Diagnosis, Electro-Surgery, Galvanic and Sinusoidal Currents, and Many Other Modalities. Price, $5.50.

"Archives of Physical Therapy" $5.00 *the year, (Monthly)*

Publishes all papers read at the Congress of Physical Therapy.

Send check with order and books will be prepaid. Or will ship C.O.D. plus return charges.

THE ELECTRON PRESS 200 B. M. Ass'n Building, Kansas City 8, Mo.

Orders from Pacific Coast filled by Fassett Medical Book Agency, Carolands, Burlingame, California.

Learn something about your War Bonds from this fellow!

THE BEST THING a bulldog does is HANG ON! Once he gets hold of something, it's mighty hard to make him let go!

And that's the lesson about War Bonds you can learn from him. Once you get hold of a War Bond, HANG ON TO IT for the full ten years of its life.

There are at least two very good reasons why you should do this. One is a patriotic reason . . . the other a personal reason.

You buy War Bonds because you want to put some of your money into fighting this war. But . . . if you don't hang on to those War Bonds, your money isn't going to *stay* in the battle.

Another reason you buy War Bonds is because you want to set aside some money for your family's future and yours. No one knows just what's going to happen after the war. But the man with a fistful of War Bonds *knows* he'll have a roof over his head and 3 squares a day no matter *what* happens!

War Bonds pay you back $4 for every $3 in 10 years. But, if you don't hang on to your Bonds for the full ten years, you don't get the full face value, and . . . you won't have that money coming in later on.

So buy War Bonds . . . then *keep* them. You will find that War Bonds are very good things to have . . . and to hold!

WAR BONDS to Have and to Hold

The Treasury Department acknowledges with appreciation the publication of this message by

MEDICAL RECORD

IN THE ORIFICIAL PRURITUS OF *Children*

Because of their sensitive mucous membrane surfaces, children are especially prone to develop vaginitis, proctitis or balanitis. While a variety of pathologic processes and organisms may contribute, the lesions have one common characteristic—severe itching. The scratching which invariably ensues, produces secondary traumatic lesions with their threat of superimposed infection. Because children cannot be expected to suppress the desire to scratch, dependable anti-pruritic medication is required. For this purpose, the efficacy of Calmitol Ointment is long demonstrated. It dependably stops itching, regardless of cause. Its action is sustained, requiring only infrequent application. Calmitol Ointment contains no irritating substances, and therefore may be applied safely to all external surfaces of infants and children.

Thos. Leeming & Co. Inc.

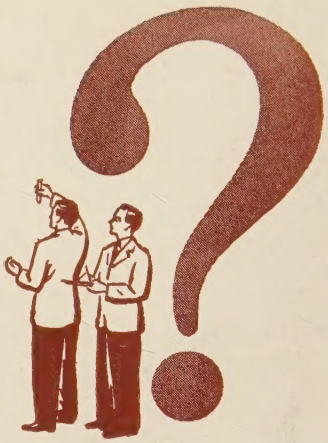
155 East 44th Street • New York 17, N. Y.

The anti-pruritic properties of Calmitol are due to the valuable pharmacodynamic influence of its ingredients: camphorated chloral, menthol, and hyoscyamine oleate, in an alcohol-chloroform-ether vehicle. A three-fold action is exerted: (1) Sensory impulses are blocked at the afferent nerve endings and cutaneous receptor organs; (2) local active hyperemia encourages resolution of the underlying process; (3) bacteriostasis aids in preventing spread. Calmitol Ointment is thoroughly bland and may be applied safely to infants' skin. * * * Professional samples available on request.

CALMITOL

THE DEPENDABLE ANTI-PRURITIC

Why Are Metandren Linguets Better than Regular Methyltestosterone Tablets For Sublingual Therapy



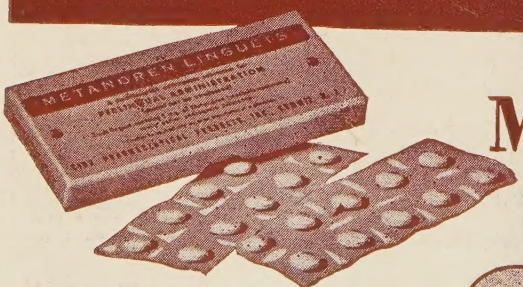
METANDREN* LINGUETS* are specially designed for sublingual therapy. Regular methyltestosterone tablets are intended for ingestion therapy.

A Regular Tablet ⊘ ***Disintegrates Too Rapidly***

METANDREN LINGUETS disintegrate slowly and permit complete absorption. Regular tablets . . . rapid dissolution . . . minimal absorption.

More Salivation ◀ **REGULAR TABLET** ▶ ***More Material Swallowed***

METANDREN LINGUETS sidetrack portal circulation and liver, thus preventing partial inactivation . . . ⅓ to ½ less dosage required.



*Trade Marks Reg. U. S. Pat Off. "Metandren Linguets" identify the product as methyltestosterone of Ciba's manufacture, for sublingual administration.

METANDREN LINGUETS

Ciba PHARMACEUTICAL PRODUCTS, INC.

SUMMIT NEW JERSEY

CANADIAN BRANCH: MONTREAL, QUEBEC

TOMORROW'S MEDICINES FROM TODAY'S RESEARCH